

**Addendum to Western Riverside County Multiple
Species Habitat Conservation Plan Consistency
Determination including Determination of Biologically
Equivalent or Superior Preservation
August 31, 2015**



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Riverside County Transportation Commission

December 16, 2015

Ms. Sally Brown
 United States Fish and Wildlife Service
 2177 Salk Avenue, Suite 250
 Carlsbad, CA 92008

Ms. Heather Pert
 California Department of Fish & Wildlife
 3602 Inland Empire Blvd, Suite C-220
 Ontario, CA 91764

RE: Addendum to the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Consistency Determination and Determination of a Biologically Equivalent or Superior Preservation (DBESP) Analysis for the State Route 79 Realignment Project, Riverside County, CA

This Addendum to the August 2015 MSHCP Consistency Determination and DBESP report for the State Route 79 Realignment Project (Project) responds to comments from United States Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) (collectively referred to as Wildlife Agencies) received on October 15, 2015 and November 2, 2015, respectively. The Regional Conservation Authority (RCA) issued a consistency determination in the form of a Joint Project Review (JPR) on September 30, 2015 concluding the Project is consistent with the MSHCP. The DBESP comments from the Wildlife Agencies were provided after the JPR was issued by the RCA, during the Wildlife Agency's 30-day DBESP review period as part of the comment period allowed to the Wildlife Agencies per Sections 6.1.2, 6.1.3 and 6.3.2 of the MSHCP. The Wildlife Agencies agreed to a 30-day review period, instead of the designated 60-day review period, since the Project team submitted a Draft MSHCP Consistency Determination/DBESP (March 9, 2015) for the agencies review prior to submitting the JPR application. Please see Attachment 1, Response to Comments Table, for a breakdown of the comments which correspond to the responses below.

Response to USFWS Comment 1

USFWS requested additional restoration since a portion of mitigation Site 4, as shown in the JPR, was purchased by the City of Hemet, which included 3.38 acres of vernal pools. Riverside

County Transportation Commission (RCTC) sent follow up information to USFWS to demonstrate the MSHCP Riparian/Riverine DBESP would still be a superior alternative to the impacted sites, even with the decrease in vernal pool acreage. Overall, the 3.38 acres would remain as a mitigation site and would be contiguous within the Project's conceptual mitigation plan. USFWS agreed on November 23, 2015 (Appendix A). Therefore, no additional restoration will be performed. The text that states, "If one or more of the proposed mitigation sites are not available for acquisition, RCTC will consult with the RCA and Wildlife Agencies to identify alternative mitigation options," will remain in the DBESP.

Response to USFWS Comment 2

This comment recommends wildlife jump-outs be used rather than one way wildlife doors. USFWS subsequently provided information regarding the use of escape ramps (USFWS calls them wildlife jump-outs) from the Caltrans Wildlife Crossing Design Manual. Therefore, the DBESP will include escape ramps instead of one way wildlife doors. As stated on page 4-60 of the DBESP (August 2015), exact intervals/locations of these structures will not be known until final design; however, spacing will take into account known wildlife movement in the vicinity.

Response to USFWS Comment 3

The following text was inserted into this DBESP Addendum, as well as, the Final EIR/EIS: "Erosion and sediment control devices used for the proposed project, including fiber rolls and bonded fiber matrix, will be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard."

Response to CDFW Comment 1

This comment does not require a change to the DBESP. It requests that several drainage ditches be included as MSHCP riverine features. However, RCTC submitted information on October 14 and November 3, 2015 to exhibit the lack of connectivity to any MSHCP resource (Appendix B).

Response to CDFW Comment 2

This comment does not require a change to the DBESP. The comment questions the Section 1600 jurisdictional status of streambeds within the project impact area. Also noted in this comment, the Section 1600 status is not relevant to the MSHCP DBESP review. Table 4-1 in the DBESP does contain a footnote that states "jurisdiction of aquatic resources regulated by the California Department of Fish and Wildlife and the Regional Water Quality Control Board have not yet been determined for this project." In addition, the CDFW status of drainages within the impact area are based on the best available information and field data collected during the baseline year of 2006. Due to the time between the Final EIR/EIS and construction, an updated Jurisdictional Delineation (JD) and supplemental California Environmental Quality Act (CEQA) document will be prepared. At that time, changes in existing conditions will be addressed, and RCTC and Caltrans will coordinate with CDFW to ensure the jurisdictional status of drainages within the project impact area meets the conditions as outlined in Section 1600 et seq. of the Fish and Game Code.

Response to CDFW Comment 3

This comment does not require a change to the MSHCP consistency document. It requests updates to the nesting bird season of March 1st through June 30th to include all applicable laws and regulations in regards to nesting birds, which could extend the nesting bird season from February 15th to September 15th. However, since this document is specific to the MSHCP, it includes the nesting season as defined in Section 7.5.3, Provisions, of the MSHCP, verbatim. RCTC and Caltrans recognize it is their responsibility to comply with all nesting bird laws. Those laws will not only be captured in the Section 1600 Streambed Alteration Agreement, but there are also measures included throughout the Biological Resources section of the Final EIR/EIS to account for all nesting birds and raptors.

Response to CDFW Comment 4:

This comment does not require a change to the DBESP. RCTC and Caltrans will ensure that all mitigation measures and permits are included in future Requests for Proposals for the project to ensure all relevant compliance measures are met.

We appreciate your continued coordination with RCTC on this project.

Thank you for your cooperation,

A handwritten signature in blue ink that reads "Patti Castillo". The signature is fluid and cursive, with the first name "Patti" being more prominent than the last name "Castillo".

Patti Castillo
Capital Projects Program Manager
Riverside County Transportation Commission

Cc: Laurie Dobson Correa, Regional Conservation Authority
Noelle Ronan, Regional Conservation Authority

Enclosures:

Attachment 1: Response to Comment Table

Appendix A: USFWS determined consistency with MSHCP on November 23, 2015

Appendix B: Email correspondence regarding the lack of connectivity to any MSHCP resource

Attachment 1
Response to Comment Table

REVIEW COMMENTS: SUMMARY AND RESOLUTION					
SR-79 Realignment Project					
Response Dates: December 15, 2015					
EA 49400 (PN 0800000784)					
MSHCP/DBESP (September 30, 2015)					
			Response CODE		A = Comment Will Be Addressed--No Follow-up Discussion Required B = Comment To Be Addressed--Based Upon Requested Follow-up Discussion C = Resolution of Comment To Be Addressed In Next Submittal D = No Further Action Proposed
Reviewed by: Sally Brown, USFWS; Heather Pert, CDFW					
Comment No.	Page/Section	Review Comment	RESPONSE		
			Code	By Whom	Response to Review Comment
Sally Brown, USFW, October 15, 2015					
1	JPR Page 6	If one or more of the proposed mitigation sites are not available for acquisition, RCTC will consult with the RCA and Wildlife Agencies to identify alternative mitigation options.” As part of site 4 is not available we request that RCTC coordinate with us to identify alternative mitigation to replace the 3.38 acres of vernal pools that are not available. We’ve suggested that a restoration component could be incorporated into the mitigation proposal. Restoration should be implemented prior to or concurrent with the initiation of project work.	A	MW	We realize that a portion of Site #4 was purchased by the City of Hemet, which contained 3.38 acres of vernal pools. However, our assessment of habitat functions and values shows that even with the decrease of 3.38 acres of vernal pools, the proposed mitigation sites still serve as a biologically superior alternative to impacted areas. The areas impacted within the preferred alternative consist of degraded, low functioning riparian/riverine areas; whereas, the proposed mitigation sites contain 15.23 acres of high value vernal pool complexes. USFWS agreed that the current DBESP proposal is a superior alternative on November 23, 2015.
2	DBESP Page 4-60	use of one-way wildlife doors – We recommend that jump-outs be used rather than one-way wildlife doors. Studies have demonstrated problems with one-way doors including the doors rusting shut, people passing through the doors in the wrong direction and bending the tines such that wildlife then can enter the roadway through the doors, confusion of wildlife in how to use the doors, etc. Jump outs have a better success record	A	MW	An addendum to the MSHCP Consistency Document, including a DBESP, was prepared to include escape ramps rather than one-way wildlife doors.

3	DBESP Page 4-61	Section 7.5.3 and Appendix C – We recommend that the following measure be added to minimize project impacts to wildlife: Erosion and sediment control devices used for the proposed project, including fiber rolls and bonded fiber matrix, will be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard.	A		An addendum to the MSHCP Consistency Document, including a DBESP included the suggested text and will also be incorporated into the Final EIR/EIS.
Heather Pert, CDFW, November 2, 2015					
1		<p>Riparian/Riverine Features</p> <p>Riparian and Riverine resources that convey flow part of the year, if connected to other WR MSHCP riparian/riverine resources, should be included in the DBESP as Western Riverside MSHCP riparian/riverine features. A review of the maps and GIS files provided indicates that the following features should have been identified as riparian/riverine:</p> <ul style="list-style-type: none"> • DD0033 (Figure 4.1-2f): in Criteria Cell 3683, appears to contribute to vernal pool complex. • DD0037 (Figure 4.1-2f): appears to contribute to vernal pool complex in Criteria Cell 3584. • DD0038 (Figure 4.1-2f): may contribute to vernal pool complex in Criteria Cell 3584, need to determine if there is a connection under the road. • DD0044 (Figure 4.1-2g): appears connected to vernal pool complex in Criteria Cell 3291. It looks like the project may not impact this feature. • DD0045 (Figure 4.1-2g): appears connected to rare plant area/vernal pool complex in Criteria Cell 3291. • DD0048 (Figure 4.1-2 g): appears connected to SW0032. • DD0053 (Figure 4.1-2i): appears connected to SW0032. • DD0054 (Figure 4.1-2i): appears connected RP0001. • DD0056 (Figure 4.1-2i): appears connected to RP0001. • DD0057 (Figure 4.1-2j): possible connection to RP0002. • DD0058 (Figure 4.1-2j): appears connected to SW0035. • DD0059 (Figure 4.1-2j): appears connected to SW0035. • DD0060 (Figure 4.1-2j): appears connected to SW0035. • DD0061 (Figure 4.1-2j): appears connected to RP0002. • DD0062 (Figure 4.1-2j): appears connected to RP0002. • DD0069 (Figure 4.1-2j): appears connected to SW0038. 	A	MW	RCTC submitted additional drainage information on November 3, 2015 to clarify the lack of connectivity to any MSHCP Resource for these drainages.

2	<p>CDFW Jurisdiction</p> <p>It appears that the criteria of connectivity to downstream resources that is applied to MSHCP riparian/riverine resources was erroneously applied to CDFW jurisdiction. Section 1600 et seq. of the Fish and Game Code does not specify connectivity to downstream resources, and Section 1602 states that for any activity that will divert or obstruct the natural flow, or change the bed, channel, or bank (which may include associated riparian resources) of a river or stream or use material from a streambed, the project applicant (or “entity”) is required to provide written notification to CDFW. Please note that streams include all those that flow at least episodically, including ephemeral streams, desert washes, and watercourses with subsurface flow. Based upon CDFW’s review of aerial photography areas subject to CDFW jurisdiction under Section 1600 et seq. of the Fish and Game Code are present on site that were not identified in the DBESP. In previous communication CDFW staff have provided information that submission of a Notification of Lake or Streambed Alteration will be required for this project. Though this is not relevant to the DBESP review, it will be relevant when submitting the Notification. The Department is concerned that the CEQA documents will not have adequately identified streams subject to CDFW jurisdiction. This is important because CDFW’s issuance of an Agreement is a “project” subject to CEQA (see Pub. Resources Code 21065). Therefore, to facilitate issuance of an Agreement, if necessary, the CEQA document should fully identify the potential impacts to the lake, stream, or riparian resources, and provide adequate avoidance, mitigation, and monitoring and reporting commitments. If the DBESP will be included in the final environmental documents, Table 4.1 of the DBESP should be revised to identify all stream resources subject to CDFW jurisdiction.</p>	A	MW	<p>We understand that all aquatic features may be subject to Section 1600 of the Fish and Game Code.</p> <p>The same criteria used to determine MSHCP riparian/riverine features was not used to determine drainages subject to Section 1600 of the Fish and Game Code. The best available field data from the baseline year of 2006 was used to make the determinations presented in the Draft EIR/EIS. Your agency had commented on the Draft EIR/EIS that an updated Jurisdictional Delineation (JD) will have to be submitted with the permit application. Due to the amount of time between the Final EIR/EIS and construction, an updated JD will be performed, as well as, a Supplemental CEQA document. At that time, the drainages present within the preferred alignment will be delineated and a determination of jurisdiction will be coordinated with the permitting agencies.</p>
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3	<p>Regarding Section 7.5.3 Provisions, Condition 2 (p.4-62 of the DBESP). ...”Habitat Clearing will be avoided during species active season defined as March 1 to June 30”: Please note that it is the Project proponent’s responsibility to comply with all applicable laws related to nesting birds and birds of prey. Migratory non-game native bird species are protected by international treaty under the federal Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. 703 et seq.). In addition, sections 3503, 3503.5, and 3513 of the FGC afford the following: Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by FGC or any regulation made pursuant thereto; Section 3503.5 states that it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by FGC or any regulation adopted pursuant thereto; and Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.</p> <p>Condition 2 states that for the purposes of the DEIR, the breeding bird season includes “...March 1 through June 30”. Please note that some species of raptors (e.g., owls) may commence nesting activities in January, and passerines may nest later than June 30. Therefore, the Department recommends that the lead agency revise Condition 2 to include the completion of nesting bird surveys regardless of time of year to ensure compliance with all applicable laws and regulations related to nesting birds and birds of prey. The Department further recommends that Condition 2 be revised to condition the completion of pre-construction surveys no more than three (3) days prior to vegetation clearing or ground disturbance activities, as instances of nesting could be missed if surveys are conducted sooner. As mentioned previously, it is the Lead Agency’s responsibility to ensure that the project complies with all applicable laws related to nesting birds and birds of prey, and that violations of these laws do not occur.</p>	A	MW	<p>Since this document is specific to the MSHCP, it includes the nesting season as defined in Section 7.5.3, Provisions, of the MSHCP, verbatim, which is March 1st to June 30th. RCTC and Caltrans recognize that it is their responsibility to comply with all nesting bird laws. Those laws, including appropriate nesting seasons, will not only be captured in the 1600 Streambed Alteration Agreement, but there are also measures included throughout the Biological Resources section of the Final EIR/EIS to account for all nesting birds and raptors.</p>
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4		Entities responsible for MSHCP and other resource permit compliance should review all environmental permits and conditions to ensure that adequate resources are provided for monitoring, compliance, and mitigation. To ensure this occurs, future Requests for Proposals for this project regarding compliance monitoring and/or implementation of permit conditions should include a list of all relevant compliance measures along with copies of all associated permits/agreements.		MW	Any responsible entity for permit compliance will review all conditions outlined in the Final EIR/EIS or supplemental environmental documents to ensure the project is in compliance with all mitigation measures.
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Appendix A
USFWS determined consistency with MSHCP
on November 23, 2015

Salazar, Cindy/SCO

From: Brown, Sally <sally_brown@fws.gov>
Sent: Monday, November 23, 2015 11:11 AM
To: Williams, Melissa/RIV
Cc: Ionta, Thomas/SCO; Salazar, Cindy/SCO; Castillo, Patti/EXT; Keel, Steve/EXT; Montez, Carlos/LAC; Gustavo Quintero; Chiang, Sophie/SEA; Edens, Ava/SCO; Huddleston, Russell/BAO; Dobson Correa, Laurie/EXT; Noelle Ronan
Subject: Re: Completed JPR 15-06-29-01 (State Route 79 Realignment Project)

Hi Melissa,

I discussed this with Karin and we are fine with the change (loss of 3.38 acres) although we would like project proponents to maintain the language stating that "If one or more of the proposed mitigation sites are not available for acquisition, RCTC will consult with the RCA and Wildlife Agencies to identify alternative mitigation options," in the event of any further changes.

Thank you,

Sally Brown
U. S. Fish and Wildlife Service
2177 Salk Avenue, Suite 250
Carlsbad, CA 92008
Office: (760) 431-9440 x278
Cell: (619) 261-6027
FAX: (760) 431-5901
Sally_Brown@fws.gov

On Tue, Nov 10, 2015 at 2:05 PM, Brown, Sally <sally_brown@fws.gov> wrote:

Hi Melissa,

I've provided a summary to Karin and I'm waiting to hear back from her. Have you put the draft CRAM numbers into a draft Mitigation Checklist per the Agency request during the last conference call?

Thanks,

Sally Brown
U. S. Fish and Wildlife Service
2177 Salk Avenue, Suite 250
Carlsbad, CA 92008
Office: (760) 431-9440 x278
Cell: (619) 261-6027
FAX: (760) 431-5901
Sally_Brown@fws.gov

On Tue, Nov 10, 2015 at 1:11 PM, <Melissa.Williams@ch2m.com> wrote:

Hello Sally. RCTC would like to thank you for your review of the JPR and DBESP. Our team will update the DBESP to include the suggested wording in Comments 2 and 3 below; however, we would like to discuss Comment #3. Although 3.38 acres of vernal pools are no longer available within Site 4 (since they are being purchased by the City of Hemet for mitigation), the mitigation proposal is still biologically superior to the impacted MSHCP riparian areas within Alternative 1br (the preferred alternative). The mitigation parcels will remain continuous, and therefore, the vernal pools will remain intact with mitigation land purchased by both the City of Hemet and RCTC.

As we discussed before, the MSHCP riparian areas within Alternative 1br represent fragmented, constructed depression features surrounded mainly by agricultural fields, as discussed throughout Chapter 4, Section 4.1.1.2. The proposed mitigation sites, however, represent the following qualities as described in Section [4.1.1.3](#):

- Sites that contain high value intact vernal pools, alkali grasslands and alkali playas
- Sites that are part of a larger vernal pool landscape
- Sites adjacent to existing preserved areas to create contiguous sections of protected habitat
- Areas identified as MSHCP criteria cells and core linkage areas
- Areas designated as critical habitat for spreading navarretia
- Sites that provide habitat for large populations of threatened and endangered species
- Sites that are currently unprotected and threatened by urban development

Impacts to MSHCP riparian areas total 5.27 acres, and RCTC proposes to purchase 15.2 acres of vernal pools, not including the over 200 acres of associated watershed and upland buffer areas that feed into these vernal pool complexes. Without accounting for the upland areas, that would still yield about a 3:1 mitigation ratio. Therefore, in terms of a DBESP review, the loss of 3.38 acres of vernal pools should not require additional restoration, because the proposed mitigation sites will remain intact, continuous and preserved, and are of higher biological value than the impacted sites. The mitigation proposal stands to be a superior alternative, as previously agreed. Also, it is essential to continue with the mitigation plan to preserve these sites in order to avoid substantial delays in the project schedule, which would have a detrimental effect on other technical disciplines. RCTC and Caltrans fully intend to obtain the parcels for mitigation. Please let RCTC know when you would like to discuss this further. Thank you.

Melissa Williams

Associate Planner

CH2M HILL

1770 Iowa Street, Suite 200

Riverside, CA, 92507

Direct 951.276.3003, ext. 34013

From: Williams, Melissa/RIV

Sent: Thursday, October 29, 2015 11:03 AM

To: Brown, Sally/EXT <Sally_Brown@fws.gov>

Cc: Ionta, Thomas/SCO <Thomas.Ionta@ch2m.com>; Salazar, Cindy/SCO <cindy.salazar@ch2m.com>; Castillo, Patti/EXT <Pcastillo@RCTC.org>; Keel, Steve/EXT <skeel@bec-riv.org>; Montez, Carlos/LAC <Carlos.Montez@ch2m.com>; 'Gustavo Quintero' <GQuintero@RCTC.org>

Subject: RE: Completed JPR 15-06-29-01 (State Route 79 Realignment Project)

Hi Sally. We received your comments on October 15th regarding the JPR and DBESP for SR 79. Will you be submitting additional comments or were those the final comments? Thank you!

Melissa Williams
Associate Planner

CH2M HILL
1770 Iowa Street, Suite 200
Riverside, CA, 92507
Direct 951.276.3003, ext. 34013

From: Pert, Heather@Wildlife [<mailto:Heather.Pert@wildlife.ca.gov>]
Sent: Wednesday, October 28, 2015 10:12 PM
To: Gustavo Quintero
Cc: Gibson, Joanna@Wildlife; Cleary-Rose, Karin; ldcorrea@wrcrca.org; Wendy Worthey; Staudenmaier, Kristin (Shuman) (kristins@wrcrca.org); Lindsey Powers; Brown, Sally; Noelle Ronan
Subject: RE: Completed JPR 15-06-29-01 (State Route 79 Realignment Project)

Hi Gustavo,

I am working on comments for the Department and will provide them by Friday afternoon.

Best,

Heather

Heather A. Pert, PhD

Inland Desert Region, R6

Senior Environmental Scientist

California Department of Fish & Wildlife

3602 Inland Empire Blvd, Suite C-220

Ontario, Ca 91764

858-395-9692 (mobile and only number)

Heather.Pert@wildlife.ca.gov

www.wildlife.ca.gov



From: Brown, Sally [mailto:sally_brown@fws.gov]

Sent: Thursday, October 15, 2015 11:30 AM

To: Noelle Ronan

Cc: GQuintero@RCTC.org; Pert, Heather@Wildlife; Gibson, Joanna@Wildlife; Cleary-Rose, Karin; ldcorrea@wrcrca.org; Wendy Worthey; Staudenmaier, Kristin (Shuman) (kristins@wrcrca.org); Lindsey Powers

Subject: Re: Completed JPR 15-06-29-01 (State Route 79 Realignment Project)

FWS-WRIV-16CPA0010

We offer the following comments on SR-79 Realignment Project JPR 15-06-29-01 and DBESP:

JPR Page 6 – “If one or more of the proposed mitigation sites are not available for acquisition, RCTC will consult with the RCA and Wildlife Agencies to identify alternative mitigation options.”

As part of site 4 is not available we request that RCTC coordinate with us to identify alternative mitigation to replace the 3.38 acres of vernal pools that are not available. We’ve suggested that a restoration component could be incorporated into the mitigation proposal. Restoration should be implemented prior to or concurrent with the initiation of project work.

DBESP Page 4-60 – use of one-way wildlife doors – We recommend that jump-outs be used rather than one-way wildlife doors. Studies have demonstrated problems with one-way doors including the doors rusting shut, people passing through the doors in the wrong direction and bending the tines such that wildlife then can enter the roadway through the doors, confusion of wildlife in how to use the doors, etc. Jump outs have a better success record.

DBESP Page 4-61 – Section 7.5.3 and Appendix C – We recommend that the following measure be added to minimize project impacts to wildlife:

Erosion and sediment control devices used for the proposed project, including fiber rolls and bonded fiber matrix, will be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard.

We appreciate the project's avoidance and minimization of impacts to FWS trust resources and look forward to working with the project proponents on revisions to the mitigation proposal.

Sally Brown

U. S. Fish and Wildlife Service

2177 Salk Avenue, Suite 250

Carlsbad, CA 92008

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Cell: (619) 261-6027

FAX: (760) 431-5901

Sally_Brown@fws.gov

On Wed, Sep 30, 2015 at 2:23 PM, Noelle Ronan <nronan@dudek.com> wrote:

Hi Gustavo,

Attached is the completed JPR 15-06-29-01 (State Route 79 Realignment Project). The Wildlife Agencies will be sent hard copies today. They have 10 working days upon receipt of the hard copies to provide comments back to you on the JPR. They have 30 days to provide comments back to you on the DBESP (per the agreed upon shortened review time).

Let me know if you have any questions.

Thank you,

Noelle Ronan

Wildlife Biologist/Environmental Planner

40-004 Cook Street, Suite 4

Palm Desert, California 92211

Cell: 760.274.3955

nronan@dudek.com

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Please consider the environment before printing this email. 

SR 79 Realignment DBESP Summary Table

MSHCP Resource	Build Alternative 1br Permanent Impacts (acres)	Mitigation Site 1 (60.03 ac*)	Mitigation Site 2 (95.26 ac*)	Mitigation Site 3 (31.89 ac*)	Mitigation Site 4 (13.63 ac*)	Mitigation Site 5 (33.52 ac*)	Mitigation Summary Total (234.33 ac*)
Riverine (Salt Creek Channel) (acres)	0.004	0.0	0.0	0.0	0.0	0.0	0.0
Riparian Wetlands (acres)	1.6	0.0	0.0	0.0	0.0	0.0	0.0
Constructed Ponds (acres)	3.2	0.0	0.0	0.0	0.0	0.0	0.0
Vernal Pool Fairy Shrimp (FT)	No	Yes	No	No	No	No	N/A
Vernal Pools (acres)	1.99	2.51	1.16	4.65	0.009	6.90	15.23
Seasonal Wetlands** (acres)	0.45	0.0	1.85	0.0	0.0	0.0	1.85
Spreading Navarretia (FT) (individuals)	0	28,533	1,547	246	0	0	30,933
California Orcutt Grass (FE) (individuals)	0	4,266	0.0	0	0	0	2,646
San Jacinto Valley Crownscale (FT) (individuals)	0	410	24,477	3,850	1,129	1,657	35,952
Thread-Leaved Brodiaea (FE) (individuals)	0	0	231	0	0	0	32
Smooth Tarplant (CNPS 1B.1) (acres)**	0.15	<0.10	0.38	0.81	<0.10	0	1.2
Davidson's Saltscale (CNPS 1B.2) (individuals)	0	0	11,931	5	3,554	1	2,094
Little Mouseltail (CNPS 3.1) (individuals)	0	2,799	17,178	35,780	233	3,790	52,915
Burrowing Owl (pairs and/or acres)	1 pair***	60.03	95.26	31.89	13.63	33.52	234.33
Priority Conservation Criteria							
MSHCP Criteria Cell (acres)	62.49 (Cells 2364, 3291, 3584, 3683)	60.03 (Cell 3887)	95.26 (Cell 3891, 4007)	31.89 (Cell 3791)	13.63 (Cell 3684, 3792)	33.52 (Cell 3791, 3792)	241.64
MSHCP Core Linkage	No	Yes	Yes	Yes	Yes	Yes	Yes

SR 79 Realignment DBESP Summary Table

Priority Conservation Criteria							
Part of Larger Vernal Pool Landscape	No	Yes	Yes	Yes	Yes	Yes	Yes
Adjacent to Existing Preserve	No	No	No	Yes	Yes	Yes	Yes
Surrounding Upland Habitats							
	Alkali Grassland / Annual Grassland / Ruderal /Disturbed	Alkali Grassland / Annual Grassland/ Riversidian Sage Scrub	Alkali Grassland / Alkali Playa Annual Grassland	Alkali Grassland / Alkali Playa /Annual Grassland	Alkali Grassland / Alkali Playa Annual Grassland	Alkali Grassland / Alkali Playa Annual Grassland	Alkali Grassland / Alkali Playa Annual Grassland

*The total acreage includes associated watershed upland buffer areas

**Smooth tarplant impacts are shown in acreage, rather than individuals, since mitigation was assessed based on acreage of habitat in the DBESP

***The amount of foraging habitat can vary; therefore, the impacts shown only include the amount of pairs and not acreage of habitat

Appendix B
Email correspondence regarding the lack of
connectivity to any MSHCP resource

Salazar, Cindy/SCO

From: Williams, Melissa/RIV
Sent: Wednesday, October 14, 2015 8:46 PM
To: Pert, Heather/EXT
Cc: Chiang, Sophie/SEA; Montez, Carlos/LAC; Huddleston, Russell/BAO; Ionta, Thomas/SCO; 'Gustavo Quintero'
Subject: MSHCP review
Attachments: Drainage Ditches SummaryFinal.docx

Hi Heather. We also wanted to send this file to you to facilitate your review of the MSHCP DBESP for riparian/riverine resources within Build Alternative 1br. We had sent this to the RCA during their JPR as well. This will show you some of the drainages in question and clarify why they were not pulled in as riverine resources. Please let us know if you have any additional questions. Thank you!

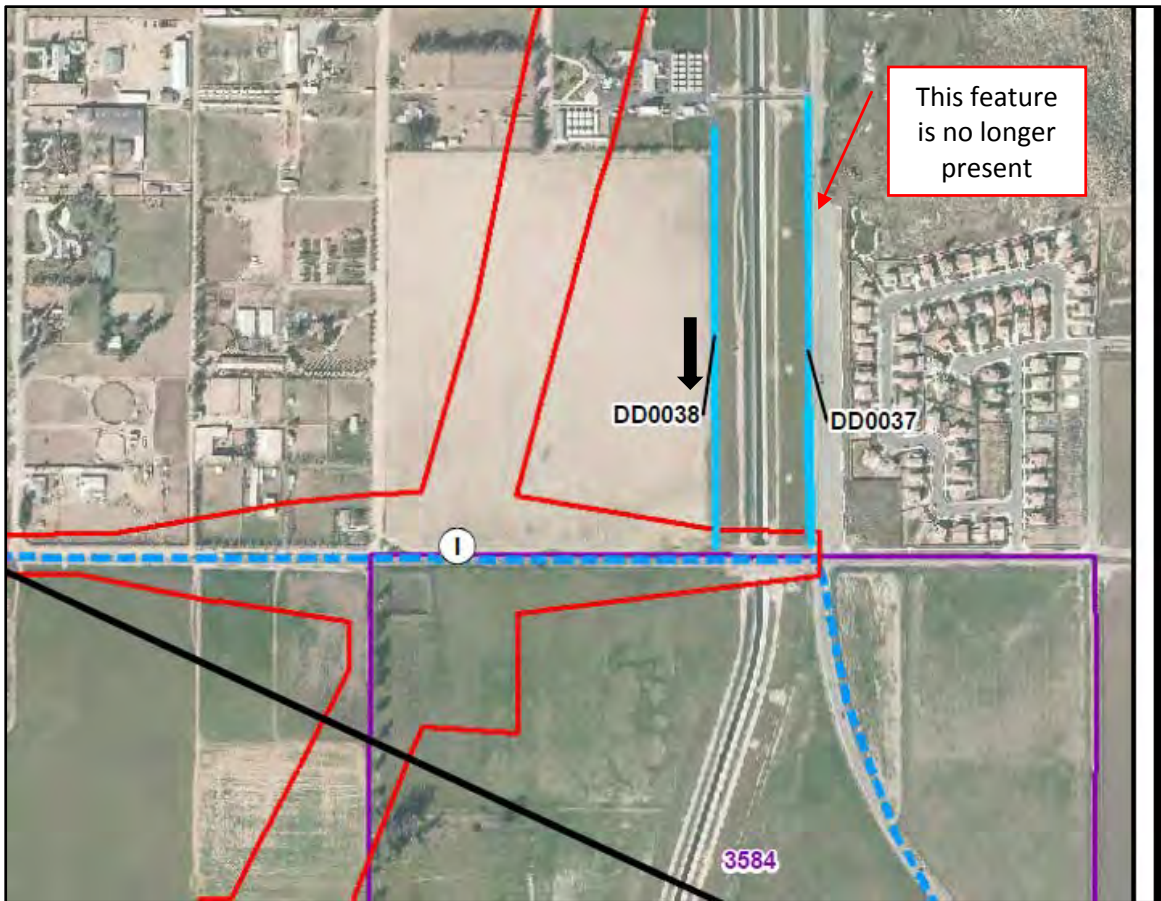
Melissa Williams
Associate Planner

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Direct 951.276.3003, ext. 34013

DD0033



Narrow earthen ditch – terminates at south side of developed area as shown on the map, does not have any hydrologic connection to aquatic habitat on the east side of the drainage



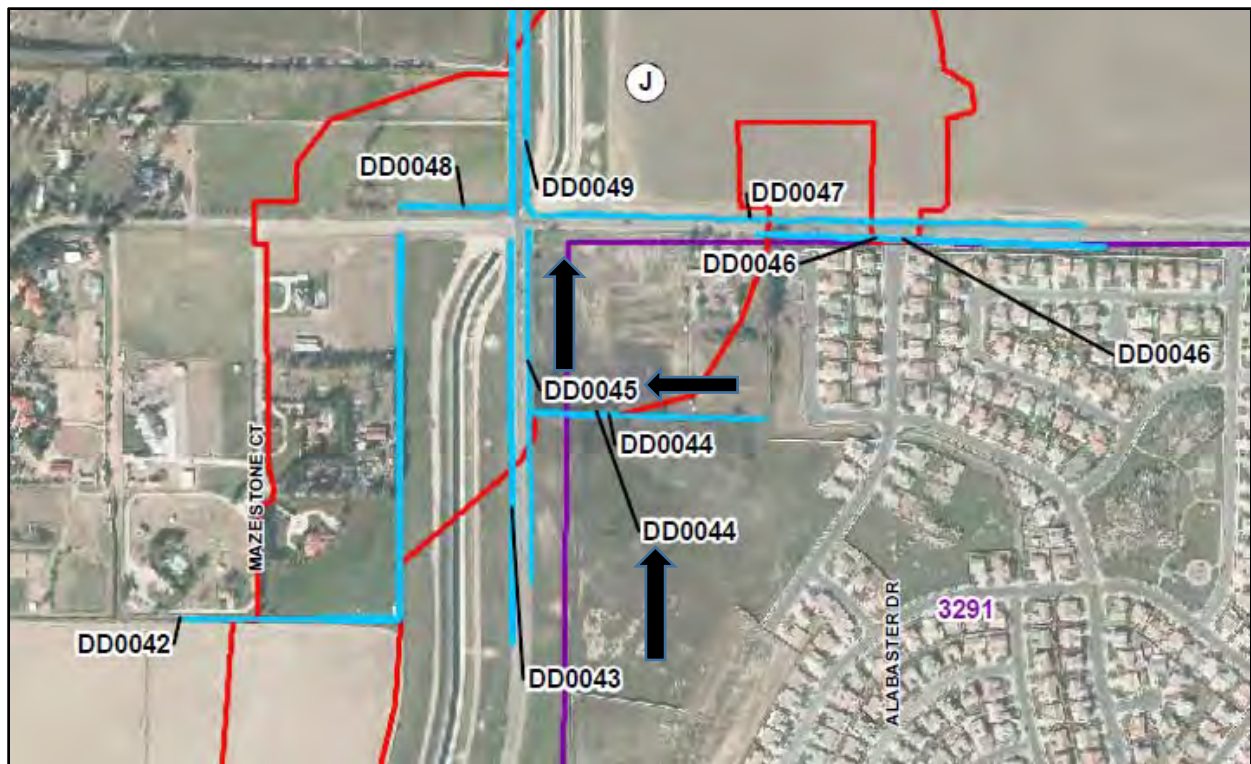
DD0037 – drainage is no longer present at this location



DD0038 – drainage swale terminates along the north side of Devonshire Ave – there is no culvert connection or any direct hydrologic connection to any aquatic habitat south of Devonshire Ave.



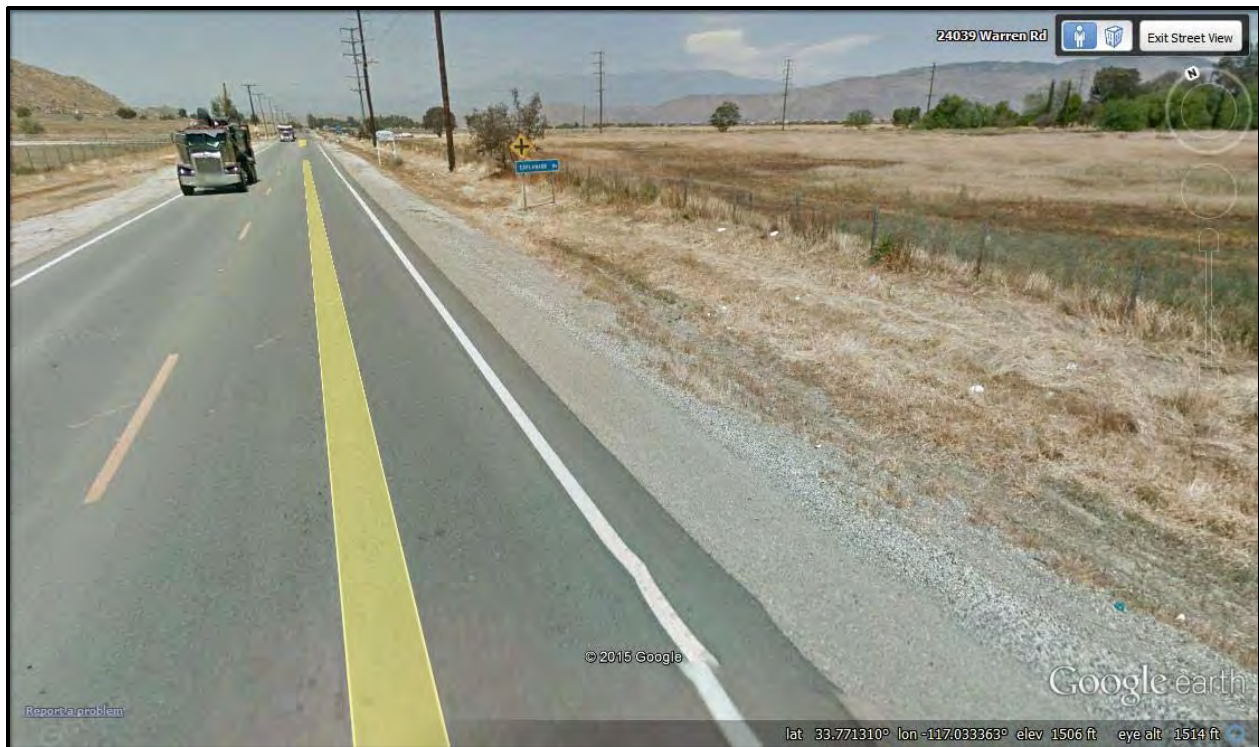
DD0038 – Note the lack of culvert or any other direct connection to the south of Devonshire Ave



In this location, drainages DD0044 and DD0045 are downslope of the vernal pools and seasonal wetlands in this area. During heavy rain events excess water may overtop these wetlands and be conveyed into these ditches and away from the site, but the ditches do not convey any flow into this area.

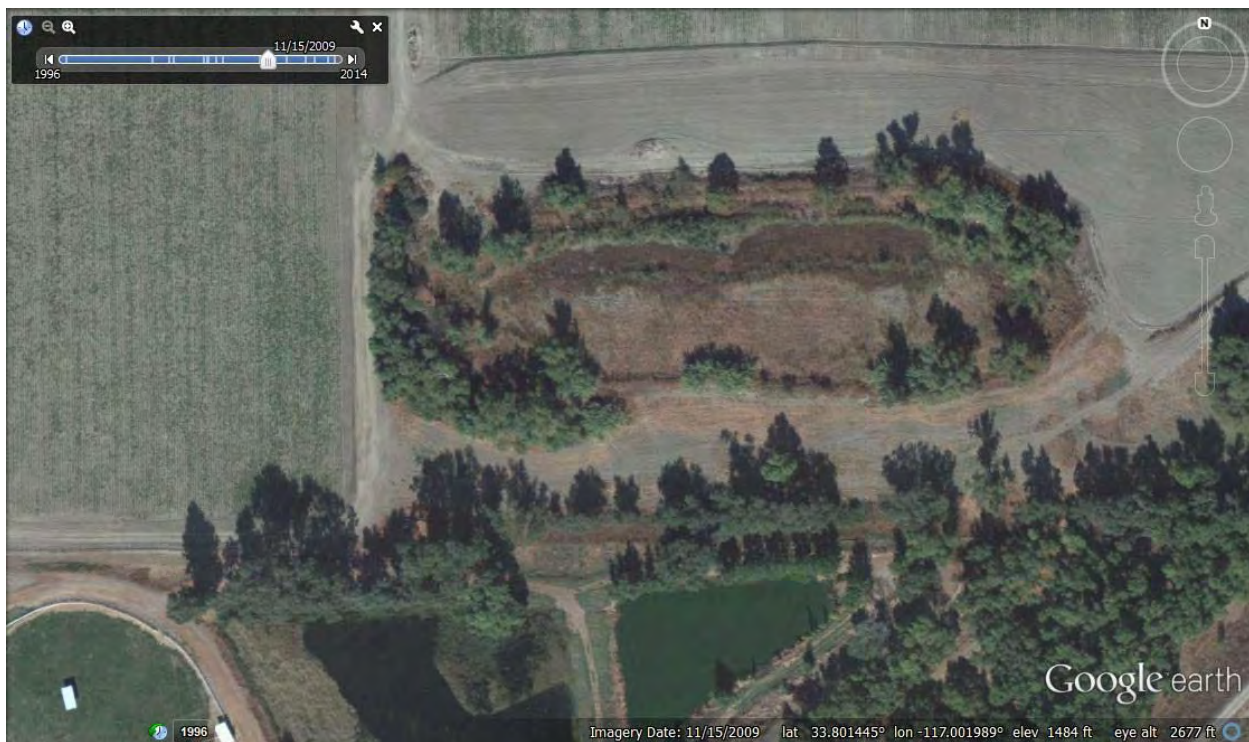


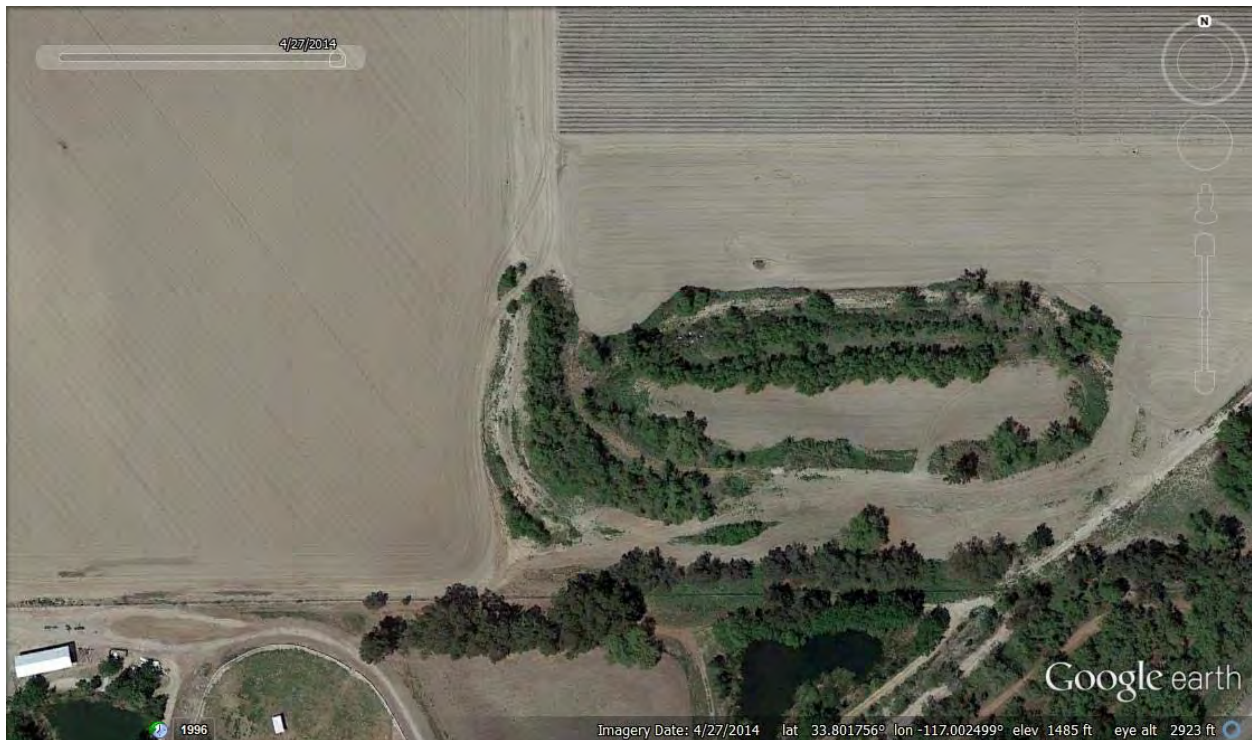
Drainage DD0044 – conveys flow away from the wetlands in this area towards Warren Ave



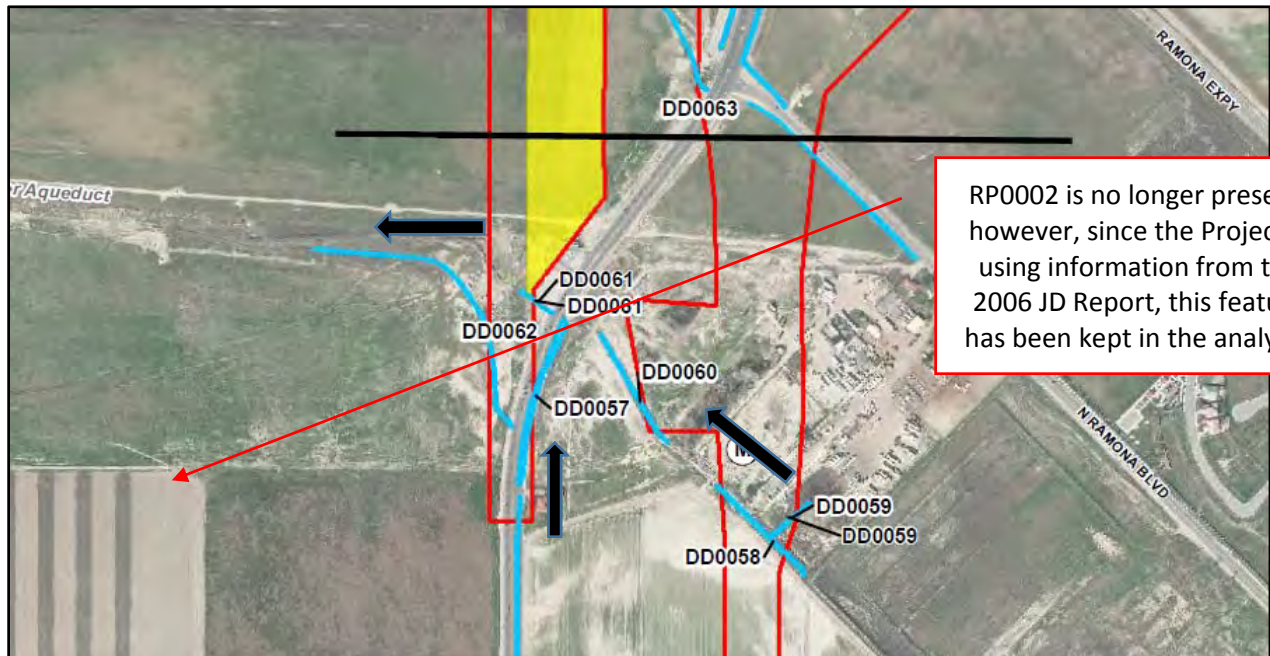
DD0045 – At the time of the wetland delineation, this feature was characterized by cattail and other wetland vegetation that appear to no longer be present – drains to the north away from vernal pools and seasonal wetlands located to the southeast.







The three images above show the locations of drainage ditches DD0053 and DD0056 – these features are located in an actively farmed area. During high rainfall and due to subsequent flooding, drainage feature DD0056 is readily apparent (see middle aerial photo) – but is later obliterated by the farmer. This feature also conveys flows away from the trees in this area.

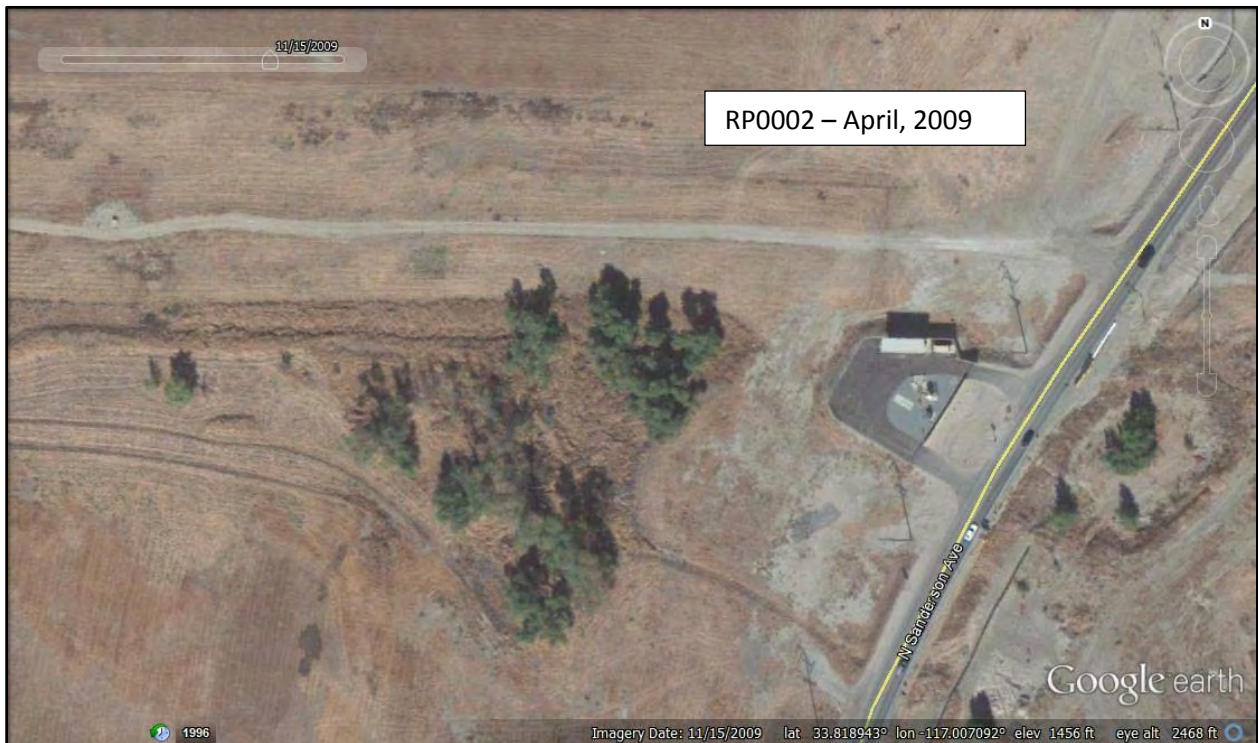




RP0002 – May 18, 2006 Cluster of black willow trees along north side of agricultural field, west side of Warren Ave.



RP0002 – January 29, 2015 location of RP002 along north side of agricultural field, west side of Warren Ave – willows have been cut and removed from this area.





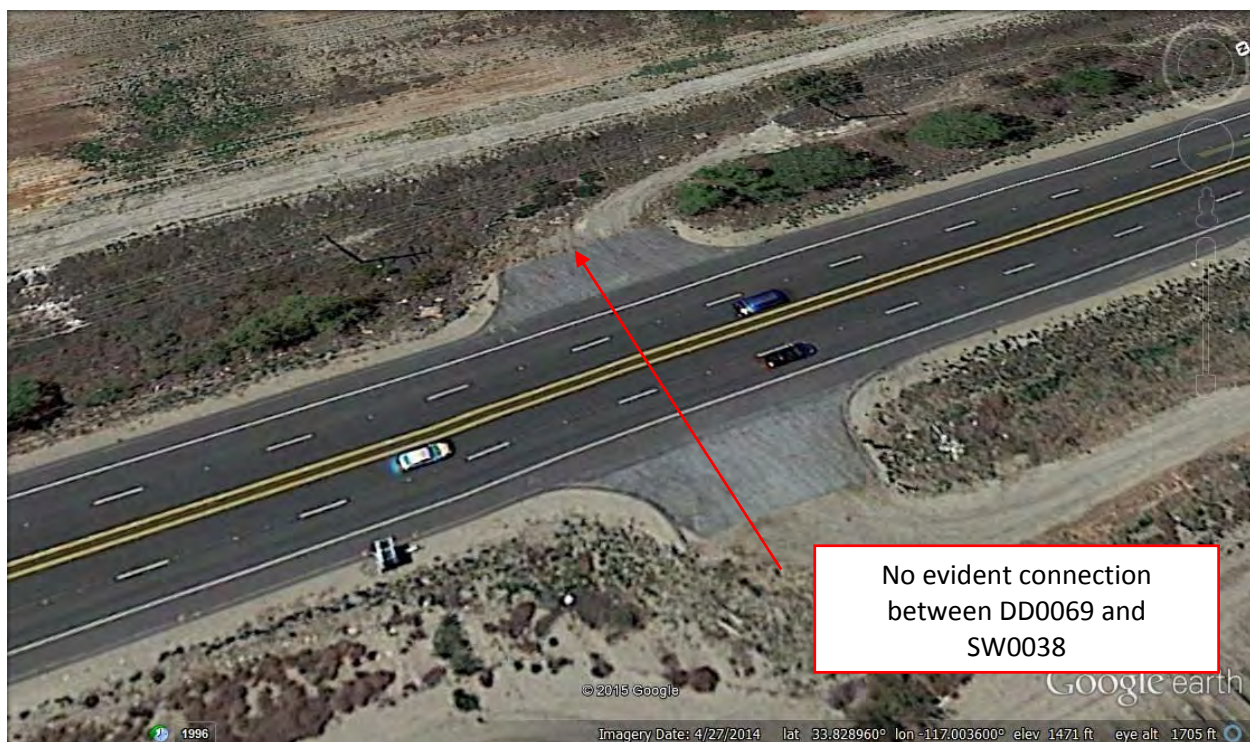




DD0069 –Looking south along west side of SR 79



South end of SW0038 – No apparent connection with drainage feature to the south



DD0048 conveys flow to east towards Warren Ave



DD0048 – low swale that drains towards Warren Ave, no connection with former stock pond SW0032

Salazar, Cindy/SCO

From: Williams, Melissa/RIV
Sent: Tuesday, November 03, 2015 8:56 PM
To: Pert, Heather/EXT
Cc: Gustavo Quintero; Montez, Carlos/LAC; Huddleston, Russell/BAO; Chiang, Sophie/SEA; Edens, Ava/SCO
Subject: FW: Completed JPR 15-06-29-01 (State Route 79 Realignment Project)
Attachments: MSHCP review

Hi Heather. Thank you for reviewing the DBESP for the SR 79 Realignment Project. I attached the e-mail we had previously sent to you that explains how the drainages you listed below lack connectivity to any MSHCP riparian/riverine resources. If you have additional information for these areas that show that they qualify as riparian/riverine resources, could you please share that with our team? Based on our data and field investigation, there is no connectivity. Please let us know if you have additional questions about these drainages after you've reviewed the attachment. Thank you!

Melissa Williams
Associate Planner

CH2M HILL
1770 Iowa Street, Suite 200
Riverside, CA, 92507
Direct 951.276.3003, ext. 34013

From: Gustavo Quintero [mailto:GQuintero@RCTC.org]
Sent: Monday, November 02, 2015 1:31 PM
To: Williams, Melissa/RIV <Melissa.Williams@CH2M.com>; Montez, Carlos/LAC <Carlos.Montez@ch2m.com>
Cc: Castillo, Patti/EXT <Pcastillo@RCTC.org>; Keel, Steve/EXT <skeel@bec-riv.org>; Ionta, Thomas/SCO <Thomas.Ionta@ch2m.com>; Salazar, Cindy/SCO <Cindy.Salazar@CH2M.com>
Subject: FW: Completed JPR 15-06-29-01 (State Route 79 Realignment Project)

Carlos/Melissa-
FYI –
Heather's comments.

Gustavo Quintero, Project Coordinator
Bechtel/RCTC
3850 Vine Street, Suite #210
Riverside, CA 92507
Phone: (951) 787-7935
Fax: (951) 778-1099
Cell: (951) 205-9397
RCTC email: gquintero@bec-riv.org
Bechtel email: gxquinte@bechtel.com

From: Pert, Heather@Wildlife [mailto:Heather.Pert@wildlife.ca.gov]
Sent: Monday, November 02, 2015 1:22 PM
To: Gustavo Quintero
Cc: Gustavo Quintero; Gibson, Joanna@Wildlife; Cleary-Rose, Karin; ldcorrea@wrcrca.org; Wendy Worthey;

Subject: RE: Completed JPR 15-06-29-01 (State Route 79 Realignment Project)

Hello Gustavo,

The Department is providing the following comments and concurs with the comments provided by the Service in the proceeding email.

1) Riparian/Riverine Features

Riparian and Riverine resources that convey flow part of the year, if connected to other WR MSHCP riparian/riverine resources, should be included in the DBESP as Western Riverside MSHCP riparian/riverine features. A review of the maps and GIS files provided indicates that the following features should have been identified as riparian/riverine:

- DD0033 (Figure 4.1-2f): in Criteria Cell 3683, appears to contribute to vernal pool complex.
- DD0037 (Figure 4.1-2f): appears to contribute to vernal pool complex in Criteria Cell 3584.
- DD0038 (Figure 4.1-2f): may contribute to vernal pool complex in Criteria Cell 3584, need to determine if there is a connection under the road.
- DD0044 (Figure 4.1-2g): appears connected to vernal pool complex in Criteria Cell 3291. It looks like the project may not impact this feature.
- DD0045 (Figure 4.1-2g): appears connected to rare plant area/vernal pool complex in Criteria Cell 3291.
- DD0048 (Figure 4.1-2 g): appears connected to SW0032.
- DD0053 (Figure 4.1-2i): appears connected to SW0032.
- DD0054 (Figure 4.1-2i): appears connected RP0001.
- DD0056 (Figure 4.1-2i): appears connected to RP0001.
- DD0057 (Figure 4.1-2j): possible connection to RP0002.
- DD0058 (Figure 4.1-2j): appears connected to SW0035.
- DD0059 (Figure 4.1-2j): appears connected to SW0035.
- DD0060 (Figure 4.1-2j): appears connected to SW0035.
- DD0061 (Figure 4.1-2j): appears connected to RP0002.
- DD0062 (Figure 4.1-2j): appears connected to RP0002.
- DD0069 (Figure 4.1-2j): appears connected to SW0038.

2) CDFW Jurisdiction

It appears that the criteria of connectivity to downstream resources that is applied to MSHCP riparian/riverine resources was erroneously applied to CDFW jurisdiction. Section 1600 et seq. of the Fish and Game Code does not specify connectivity to downstream resources, and Section 1602 states that for any activity that will divert or obstruct the natural flow, or change the bed, channel, or bank (which may include associated riparian resources) of a river or stream or use material from a streambed, the project applicant (or "entity") is required to provide written notification to CDFW. Please note that streams include all those that flow at least episodically, including ephemeral streams, desert washes, and watercourses with subsurface flow. Based upon CDFW's review of aerial photography areas subject to CDFW jurisdiction under Section 1600 et seq. of the Fish and Game Code are present on site that were not identified in the DBESP. In previous communication CDFW staff have provided information that submission of a Notification of Lake or Streambed Alteration will be required for this project. Though this is not relevant to the DBESP review, it will be relevant when submitting the Notification. The Department is concerned that the CEQA documents will not have adequately identified streams subject to CDFW jurisdiction. This is important because CDFW's issuance of an Agreement is a "project" subject to CEQA (see Pub. Resources Code 21065). Therefore, to facilitate issuance of an Agreement, if necessary, the CEQA document should fully identify the potential impacts to the lake, stream, or riparian resources, and provide adequate avoidance, mitigation, and monitoring and reporting commitments. If the DBESP will be included in the final environmental documents, Table 4.1 of the DBESP should be revised to identify all stream resources subject to CDFW jurisdiction.

3) Regarding Section 7.5.3 Provisions, Condition 2 (p.4-62 of the DBESP). ..."Habitat Clearing will be avoided during species active season defined as March 1 to June 30": Please note that it is the Project proponent's responsibility

to comply with all applicable laws related to nesting birds and birds of prey. Migratory non-game native bird species are protected by international treaty under the federal Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. 703 et seq.). In addition, sections 3503, 3503.5, and 3513 of the FGC afford the following: Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by FGC or any regulation made pursuant thereto; Section 3503.5 states that it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by FGC or any regulation adopted pursuant thereto; and Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

Condition 2 states that for the purposes of the DEIR, the breeding bird season includes "...March 1 through June 30". Please note that some species of raptors (e.g., owls) may commence nesting activities in January, and passerines may nest later than June 30. Therefore, the Department recommends that the lead agency revise Condition 2 to include the completion of nesting bird surveys regardless of time of year to ensure compliance with all applicable laws and regulations related to nesting birds and birds of prey. The Department further recommends that Condition 2 be revised to condition the completion of pre-construction surveys no more than three (3) days prior to vegetation clearing or ground disturbance activities, as instances of nesting could be missed if surveys are conducted sooner. As mentioned previously, it is the Lead Agency's responsibility to ensure that the project complies with all applicable laws related to nesting birds and birds of prey, and that violations of these laws do not occur.

4) Entities responsible for MSHCP and other resource permit compliance should review all environmental permits and conditions to ensure that adequate resources are provided for monitoring, compliance, and mitigation. To ensure this occurs, future Requests for Proposals for this project regarding compliance monitoring and/or implementation of permit conditions should include a list of all relevant compliance measures along with copies of all associated permits/agreements.

Sincerely,

Heather A. Pert, PhD

Inland Desert Region, R6
Senior Environmental Scientist
California Department of Fish & Wildlife
3602 Inland Empire Blvd, Suite C-220
Ontario, Ca 91764
858-395-9692 (mobile and only number)

Heather.Pert@wildlife.ca.gov

www.wildlife.ca.gov



From: Brown, Sally [mailto:sally_brown@fws.gov]

Sent: Thursday, October 15, 2015 11:30 AM

To: Noelle Ronan

Cc: GQuintero@RCTC.org; Pert, Heather@Wildlife; Gibson, Joanna@Wildlife; Cleary-Rose, Karin; ldcorrea@wrcrca.org; Wendy Worthey; Staudenmaier, Kristin (Shuman) (kristins@wrcrca.org); Lindsey Powers

Subject: Re: Completed JPR 15-06-29-01 (State Route 79 Realignment Project)

FWS-WRIV-16CPA0010

We offer the following comments on SR-79 Realignment Project JPR 15-06-29-01 and DBESP:

JPR Page 6 – “If one or more of the proposed mitigation sites are not available for acquisition, RCTC will consult with the RCA and Wildlife Agencies to identify alternative mitigation options.”

As part of site 4 is not available we request that RCTC coordinate with us to identify alternative mitigation to replace the 3.38 acres of vernal pools that are not available. We’ve suggested that a restoration component could be incorporated into the mitigation proposal. Restoration should be implemented prior to or concurrent with the initiation of project work.

DBESP Page 4-60 – use of one-way wildlife doors – We recommend that jump-outs be used rather than one-way wildlife doors. Studies have demonstrated problems with one-way doors including the doors rusting shut, people passing through the doors in the wrong direction and bending the tines such that wildlife then can enter the roadway through the doors, confusion of wildlife in how to use the doors, etc. Jump outs have a better success record.

DBESP Page 4-61 – Section 7.5.3 and Appendix C – We recommend that the following measure be added to minimize project impacts to wildlife:

Erosion and sediment control devices used for the proposed project, including fiber rolls and bonded fiber matrix, will be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard.

We appreciate the project’s avoidance and minimization of impacts to FWS trust resources and look forward to working with the project proponents on revisions to the mitigation proposal.

Sally Brown
U. S. Fish and Wildlife Service
2177 Salk Avenue, Suite 250
Carlsbad, CA 92008
Office: (760) 431-9440 x278
Cell: (619) 261-6027
FAX: (760) 431-5901
Sally_Brown@fws.gov

On Wed, Sep 30, 2015 at 2:23 PM, Noelle Ronan <nronan@dudek.com> wrote:

Hi Gustavo,

Attached is the completed JPR 15-06-29-01 (State Route 79 Realignment Project). The Wildlife Agencies will be sent hard copies today. They have 10 working days upon receipt of the hard copies to provide comments back to you on the JPR. They have 30 days to provide comments back to you on the DBESP (per the agreed upon shortened review time).

Let me know if you have any questions.

Thank you,

Noelle Ronan

Wildlife Biologist/Environmental Planner

40-004 Cook Street, Suite 4

Palm Desert, California 92211

Cell: 760.274.3955

nronan@dudek.com

DUDEK | *Natural Resource Management* | *Infrastructure Development* | *Regulatory Compliance*

Please consider the environment before printing this email. 

Joint Project Review
September 30, 2015



RCA Joint Project Review (JPR) PUBLIC PROJECT

JPR #: 15-06-29-01

Date: 9-30-2015

Project Information

Permittee: Riverside County Transportation Commission
Case Information: State Route 79 Realignment Project

Requirements Related to Planned Facilities

Consistency Conclusion: The project is consistent with both the Criteria and Other Plan requirements.

Applicable Core/Linkage: Existing Constrained Linkage B (Salt Creek), Proposed Noncontiguous Habitat Block 7

Area Plan: Harvest Valley/Winchester, San Jacinto Valley

APN	Sub-Unit	Cell Group	Cell
430-110-015 430-120-010 430-120-012 430-120-013	San Jacinto Valley Area Plan, SU1 – Gilman Springs/Southern Badlands	M	2364
448-060-001	San Jacinto Valley Area Plan, SU4 – Hemet Vernal Pool Areas East	Independent	3291
455-130-012 455-130-015 455-130-032 455-130-044 455-130-045	San Jacinto Valley Area Plan, SU4 – Hemet Vernal Pool Areas East	D'	3584
465-020-003 465-020-004 465-020-005 465-020-006 465-020-010 465-020-019 465-020-021 465-020-023 465-020-024 465-020-025 465-020-026 465-020-027 465-020-028 465-040-012	Harvest Valley/Winchester Area Plan, SU2 - Hemet Vernal Pool Areas West	Independent	3683



RCA Joint Project Review (JPR) PUBLIC PROJECT

JPR #: 15-06-29-01

Date: 9-30-2015

Project Characteristics

- a. The proposed project is the realignment of State Route 79 (SR 79) in the vicinity of the cities of Hemet and San Jacinto in Riverside County, California. The Project would begin just south of Domenigoni Parkway and end approximately 18 miles north at Gilman Springs Road. Improvements from Gilman Springs Road southerly approximately 1 mile will be done as part of a separate project, Mid County Parkway (JPR 14-03-03-01). The realignment would facilitate the regional movement of people and goods, enhance safety, and protect right-of-way (ROW) for future improvements and would provide a more efficient connection between Domenigoni Parkway and Gilman Springs Road. The completed project would be a divided, limited-access expressway with four travel lanes (two lanes in each direction) with accommodation for oversized trucks. Almost all of the realignment would be new construction, in areas where no highway exists. The ROW would include all permanent acquisition, temporary easements, and permanent easements to accommodate construction, operation, and maintenance activities. The proposed road realignment project will impact a total of 79.9 acres within six vegetation community types, including impacts to 52.4 acres of Riversidean sage scrub, 13.3 acres of alkali grassland, 8.6 acres of seasonal wetland, 2.4 acres of willow riparian scrub and forest, 2.0 acres of vernal pool, and 1.2 acres of cottonwood willow riparian forest.

Relation to Reserve Assembly and Covered Activity Status

- a. As stated in Section 3.2.3 of the MSHCP, “Existing Constrained Linkage B is comprised of Salt Creek. This Linkage provides Habitat for species and also provides for movement of species from the Hemet area in the east, through the central region of the Plan Area, to Canyon Lake in the west. This Linkage is constrained by existing urban and agriculture along both the northern and southern edges of the Linkage. As shown in the table below, areas not affected by edge within this Linkage total approximately 5 acres of the approximately 325 total acres of the Linkage. The Linkage also possesses the second largest P/A ratio of all Linkages and Constrained Linkages and is surrounded by planned land uses designated City and Community Development, indicating that the potential for Edge Effects in this Linkage is extremely high. Therefore, treatment and management of edge conditions along this Linkage will be necessary to ensure that it provides Habitat and movement functions for species using the Linkage.” “In addition, maintenance of existing floodplain processes along Salt Creek is important for a number of the Narrow Endemic Plant Species...”

“Proposed Noncontiguous Habitat Block 7 is comprised of a complex of vernal pools west of the City of Hemet. Though small in size and connected to other MSHCP lands solely via Existing Constrained Linkage B (Salt Creek), these parcels preserve important populations of Narrow Endemic Plant Species, including Davidson's saltscale, thread-leaved brodiaea, little mousetail, California Orcutt grass and spreading navarretia, as well as vernal pool fairy shrimp. Maintenance of vernal pool hydrology, water quality associated with Salt Creek and Traver-Willow-Domino soil series is important for these species. Proposed Noncontiguous Habitat Block 7 is constrained by existing urban Development and agricultural use. As shown in the table below, approximately 1,030 acres of the total 1,260 acres occupied by this habitat block are not affected by edge. Adjacent planned community Development, rural, urban



RCA Joint Project Review (JPR) PUBLIC PROJECT

JPR #: 15-06-29-01

Date: 9-30-2015

Development in the City of Hemet, and expansion of existing facilities such as SR-74 and SR-79 may affect resources within this habitat block. Treatment and management of edge conditions will be necessary to ensure that habitat quality and vernal pool hydrology are maintained as planned land uses are developed along the edge of this habitat block.”

- b. The northern portion of the project is located within Cell 2364 in Cell Group M of the San Jacinto Valley Area Plan. As stated in Section 3.3.13 of the MSHCP, “Conservation within this Cell Group will contribute to assembly of Proposed Core 3. Conservation within this Cell Group will focus on chaparral and coastal sage scrub habitat. Areas conserved within this Cell Group will be connected to chaparral and coastal sage scrub habitat proposed for conservation in Cell Groups L to the west, F to the north, O to the east, and in Cell Group B in the Pass Area Plan also to the east. Conservation within this Cell Group will range from 35% to 45% of the Cell Group, focusing in the northern portion of the Cell Group.”

The central portion of the project is located within Cell 3291 in an Independent Cell in the San Jacinto Valley Area Plan. As stated in Section 3.3.13 of the MSHCP, “Conservation within this Cell Group will contribute to assembly of Proposed Noncontiguous Habitat Block 7. Conservation within this Cell Group will focus on grassland habitat. Conservation within this Cell Group will be approximately 5% of the Cell Group focusing in the western portion of the Cell Group.”

The central portion of the project is located within Cell 3584 in Cell Group D’ of the San Jacinto Valley Area Plan. As stated in Section 3.3.13 of the MSHCP, “Conservation within this Cell Group will contribute to assembly of Proposed Noncontiguous Habitat Block 7. Conservation within this Cell Group will focus on playas/vernal pool habitat and agricultural land. Areas conserved within this Cell Group will be connected to playas/vernal pool habitat proposed for conservation in Cell 3793 to the east, in Cell 3891 and 3892 to the south and in Cell 3684 and 3791 both in the Harvest Valley/Winchester Area Plan to the west. Conservation within this Cell Group will range from 70% to 80% of the Cell Group, focusing in the central portion of the Cell Group.”

The central portion of the project is located within Cell 3683 in an Independent Cell of the Harvest Valley/Winchester Area Plan. As stated in Section 3.3.4 of the MSHCP, “Conservation within this Cell will focus on assembly of Proposed Noncontiguous Habitat Block 7. Conservation within this Cell will focus on playas and vernal pools and a variety of upland habitat. Areas conserved within this Cell will be connected to wetlands proposed for conservation in Cell 3684 to the east and to uplands and wetlands proposed for conservation in Cell 3791 to the south. Conservation within this Cell will range from 65% to 75%, focusing on the eastern portion of the Cell.”

- c. Rough Step: The proposed project is within Rough Step Unit 3 and Rough Step Unit 6. Rough Step 3 encompasses 150,086 acres within the north-central portion of western Riverside County and includes Lake Perris, the San Jacinto Wildlife Area, the San Jacinto River, and the Lakeview Mountains. This Rough Step area is bounded by Interstate 215 to the west, a branch of the San Jacinto River to the northeast, State Route 60 to the north, and Newport Road, Olive Avenue, and Stetson Avenue to the south. There are 32,432 acres within the Criteria Area within Rough Step 3. Key vegetation communities



RCA Joint Project Review (JPR) PUBLIC PROJECT

JPR #: 15-06-29-01

Date: 9-30-2015

within Rough Step 3 include coastal sage scrub; grasslands; playas and vernal pools; riparian scrub, woodland, forest; and Riversidean alluvial fan sage scrub. Based on the 2013 MSHCP Annual Report, all vegetation categories are “in” rough step. Therefore, development of the project will not conflict with or interfere with the Rough Step status of Unit 3.

Rough Step 6 encompasses 101,542 acres within the south-central region of western Riverside County and includes Antelope Valley, Warm Springs Creek, Paloma Creek, Lake Skinner, Johnson Ranch, and Diamond Valley Lake. This Rough Step area is bounded by Interstate 15 to the northwest, Bundy Canyon Road and Olive Avenue to the north, and Palm Avenue to the west. Within Rough Step 6, 24,836 acres are located within the Criteria Area. Key vegetation communities within Rough Step 6 include coastal sage scrub; grasslands; riparian scrub, woodland, forest; and woodlands and forests. Based on the 2013 MSHCP Annual Report, all vegetation categories are “in” rough step. Therefore, development of the project will not conflict with or interfere with the Rough Step status of Unit 6.

- d. Project information was provided by Riverside County Transportation Commission (RCTC), which includes a Western Riverside County MSHCP Consistency Determination including Determination of Biologically Equivalent or Superior Preservation prepared by the State of California Department of Transportation (Caltrans) dated August 31, 2015; Final Riparian Bird Survey Report prepared by Caltrans dated December 4, 2007; Final Vernal Pool Branchiopod Survey Report prepared by Caltrans dated December 4, 2007; Final Rare Plant Survey Report prepared by Caltrans dated December 4, 2007; Final Sensitive Wildlife Survey Report prepared by Caltrans dated December 4, 2007; Final Burrowing Owl Survey Report prepared by Caltrans dated December 4, 2007; and Final Sensitive Small Mammal Focused Survey Report prepared by Caltrans dated December 4, 2007, and Final Jurisdictional Wetland and Other Waters Delineation Report prepared by CH2M Hill, Inc. dated September 2008. The project is a Covered Activity per MSHCP Section 7.3.5, Planned Roads Within the Criteria Area. Section 7.3.5 identifies the specific process required for the project to be considered a Covered Activity. The project’s Consistency Analysis and DBESP provides the documentation required to maintain the project as a Covered Activity. Table 3-1 in the Consistency Analysis and DBESP summarizes how the project meets the consistency requirements as specified in MSHCP Section 7.3.5. Therefore, there are no adverse impacts associated with Reserve Assembly or function due to the project.

Other Plan Requirements

Data:

Section 6.1.2 – Was Riparian/Riverine/Vernal Pool Mapping or Information Provided?

- Yes. There are riparian/riverine areas on the project site. There are vernal pools on the project site and soils are suitable for fairy shrimp habitat.



RCA Joint Project Review (JPR) PUBLIC PROJECT

JPR #: 15-06-29-01

Date: 9-30-2015

Section 6.1.3 – Was Narrow Endemic Plant Species Survey Information Provided?

Yes. The project is located within a Narrow Endemic Plant Species Survey Area (NEPSSA) for Munz's onion, San Diego ambrosia, spreading navarretia, many-stemmed dudleya, California orcutt grass, and Wright's trichocoronis.

Section 6.3.2 – Was Additional Survey Information Provided?

Yes. The project site is located within a Criteria Area Species Survey Area (CASSA). The project site is also located within an Additional Survey Needs and Procedures Area for Burrowing Owl and Mammals (Los Angeles pocket mouse, San Bernardino kangaroo rat).

Section 6.1.4 – Was Information Pertaining to Urban/Wildland Interface Guidelines Provided?

Yes. The project is located near future MSHCP Conservation Areas which would require the need for implementation of urban/wildland interface guidelines.

Comments:

- a. Section 6.1.2: Based on the MSHCP Consistency Determination and DBESP prepared by Caltrans, the project area does contain riparian/riverine resources. MSHCP riparian/riverine habitats were determined during field surveys conducted between February 2005 and May 2006 within the study area, which included the Project Impact Area and a 100 foot buffer. The project would permanently impact 5.27 acres of riparian vegetation and 0.004 acres of riverine vegetation (total = 5.274 acres), permanently impact 1.99 acres of vernal pools located near Esplanade Avenue and Warren Road (VP 0109, 0110, and 0111; see Figure 4.1-5 of the MSHCP Consistency Determination and DBESP), and temporarily impact approximately 3.48 acres of riverine habitat located within Salt Creek and Hemet Channels (total impacts = 8.75 acres; see Table 4-2 of the MSHCP Consistency Determination and DBESP). All MSHCP riparian/riverine resources that would be impacted within the Project Impact Area were included in the permanent impact calculations. The only resources included in the temporary impact calculations were Salt Creek and Hemet Channels (riverine features). Temporary impacts to Salt Creek and Hemet Channels may last approximately 6 months and include installation of cofferdams, temporary support structures, and construction access routes that would be removed following construction. Impacts to riparian resources include three constructed ponds (CP004, CP006, CP008), two riparian wetlands (RP0001, RP0002), and three seasonal wetlands (SW0032, SW0035, SW0038) (Table 4-1 of the MSHCP Consistency Determination and DBESP provides a complete list of the aquatic features within the project area). A vernal pool complex containing little mousetail populations occurs in the indirect impact area within Criteria Cell 3291; however, this complex is located outside of the direct impact area and would be protected by Environmentally Sensitive Area (ESA) fencing (discussed in section 6.3.2 below).



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JPR #: 15-06-29-01

Date: 9-30-2015

Vernal pool fairy shrimp surveys were conducted between 2000 and 2007; a total of 115 pool locations were surveyed. The federally listed as threatened vernal pool fairy shrimp was identified in one pool location (Pool 78). The non-listed versatile fairy shrimp was observed in 92 of the 115 pool locations. The federally listed as endangered Riverside fairy shrimp and the non-listed Santa Rosa Plateau fairy shrimp were not detected within the study area.

Based on the MSHCP Consistency Determination and DBESP, temporary impacts to riverine habitat within Salt Creek and Hemet Channels will be restored to pre-project conditions once construction is complete. Restoration will include grading of disturbed areas to pre-project contours and reseeding with native plant species. Detailed restoration procedures and post construction monitoring will be included in the Habitat Mitigation and Monitoring Plan that will be included with the USACE Section 404 Clean Water Act Permit Application. The project will mitigate off site for permanent impacts to riparian/riverine habitat and vernal pools through the acquisition and preservation of 18.6 acres of vernal pools, lands containing rare, high value aquatic resources and/or sites adjacent to existing preserved areas. Five mitigation sites, totaling 241 combined acres and including 18.6 acres of vernal pools, will be acquired and conserved. The mitigation sites are located off-site but in the vicinity of the project within Criteria Cells 3887, 3891, 3791, 3684, and 3792. Resources supported within the mitigation sites include riparian/riverine habitat, vernal pools, sensitive plant species, and burrowing owl. Section 4.1.1.3 of the MSHCP Consistency Determination and DBESP provides a description of each mitigation site and a summary of the mitigation site resources (Table 4-5 and Table 4-7).

No mitigation properties or lands have been acquired to date. Once a Record of Decision has been issued for the final environmental document, RCTC will initiate the process to acquire mitigation lands. The five proposed mitigation sites have been evaluated at a cursory level. **Final mitigation site selection and a Habitat Management and Monitoring Plan and updated DBESP will be submitted to the RCA and Wildlife Agencies prior to acquisition of any mitigation property.** RCTC will acquire mitigation lands prior to the start of construction. Once the properties have been acquired, the lands will be transferred directly to the RCA, or a conservation easement will be recorded. If one or more of the proposed mitigation sites are not available for acquisition, RCTC will consult with the RCA and Wildlife Agencies to identify alternative mitigation options.

The project site contains suitable habitat for MSHCP-covered riparian birds including least Bell's vireo (*Vireo bellii pusillus*; LBVI) and southwestern willow flycatcher (*Empidonax traillii extimus*; SWFL), therefore a habitat assessment and focused surveys were conducted during 2005. Focused surveys were conducted in accordance with the USFWS guidelines established for LBVI (2001) and with the USFWS survey protocol established by Sogge (1997) and the USFWS (2000) for SWFL. Habitat within the project area is unsuitable for western yellow-billed cuckoo (*Coccyzus americanus*), therefore focused surveys were not conducted. Additionally, this species was not detected during the focused surveys for LBVI and SWFL and is not expected to occur in the project area. One solitary male LBVI was detected 95 m (317 ft.) outside of the study area (see Figure 4.3-6 of the Final Riparian Bird Survey Report). This was the only detection of LBVI and no nesting LBVI were found. Because the individual LBVI was not detected within the study area, no permanent



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or temporary impacts to LBVI are anticipated. One migrant SWFL was detected in the study area during the first protocol survey, approximately 135 m (442 ft.) east of the Project Impact Area (see Figure 4.1-3 of the Final Riparian Bird Survey Report). The individual was not with a mate, and no nesting behavior was observed. Because the individual was a migrant and did not nest, it was concluded that this was not the federally endangered sub-species. Therefore, no permanent or temporary impacts to SWFL are anticipated. Based on the information provided by Caltrans, the project demonstrates consistency with Section 6.1.2 of the MSHCP.

- b. Section 6.1.3: The project is located within a Narrow Endemic Plant Species Survey Area (NEPSSA) for Munz's onion, San Diego ambrosia, spreading navarretia, many-stemmed dudleya, California orcutt grass, and Wright's trichocoronis. CH2M Hill botanists and botanical subcontractors conducted rare plant surveys in 2005 and 2006 in accordance with accepted resource agency protocols and guidelines from the California Native Plant Society (2001), California Department of Fish and Game (2000), and U.S. Fish and Wildlife Service (1996). Field surveys in 2005 were conducted every other week from March 1 through August 25. Field surveys in 2006 were conducted approximately every other week from March 6 through August 24. One additional survey was conducted on September 25, 2006 to review some areas. Field visits were timed to occur during the optimal blooming period for special-status plants. Reference sites were visited as-needed to determine phenology of target special-status plants. Suitable habitat for special-status plants was identified in the study area. The rare plant surveys were conducted during years with above average (2005) and slightly below average (2006) rainfall. Because precipitation was either above average or near normal during the 2005 and 2006 surveys, the surveys were expected to have detected rare plants within suitable habitat in the study area. None of the NEPSSA plant species were detected within the Project Impact Area. Based on the information provided by Caltrans, the project demonstrates consistency with Section 6.1.3 of the MSHCP.
- c. Section 6.3.2: The project is located within a Criteria Area Species Survey Area (CASSA) for Coulter's goldfields, Davidson's saltscale, little mousetail, Parish's brittlescale, prostrate navarretia, round-leaved filaree, San Jacinto Valley crownscale, smooth tarplant, and thread-leaved brodiaea. Rare plant surveys for the CASSA plant species followed the same methods as described above for the NEPSSA plant species surveys. Little mousetail was identified in the indirect impact area in the northeastern portion of Criteria Cell 3291 (see Figure 4.3-1g in the MSHCP Consistency Determination and DBESP). These plants are outside of the direct impact area and no removal of little mousetail habitat would occur. ESA fencing will be installed at the outer edge of the right-of-way of Roadway Segment J during construction to avoid impacts to the little mousetail population and the vernal pool complex located in the indirect impact area (see Section 3.3, Avoidance of Sensitive Plant Populations in the MSHCP Consistency Determination and DBESP). Smooth tarplant was observed throughout the project study area in a variety of habitats (fields, grasslands, dryland farm fields, roadsides) during the rare plant surveys. Approximately 0.15 acres of smooth tarplant habitat would be permanently impacted by the project. The impacts to plants suitable for long-term conservation values (LTCV) are within Criteria Cells 3683, 3584, and 3291 (see Figure 4.3-1 a through j in the Consistency Determination and DBESP). To mitigate for the loss of these LTCV smooth



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tarplant populations, four mitigation sites containing at least 1.2 acres of smooth tarplant suitable habitat will be acquired and conserved. The sites identified contain smooth tarplant populations that are within MSHCP Criteria Cells. The smooth tarplant mitigation sites are part of the riparian and vernal pool mitigation sites. Other resources supported within the mitigation sites include riparian/riverine habitat, vernal pools, multiple sensitive plant species, and burrowing owl. Section 4.1.1.3 of the MSHCP Consistency Determination and DBESP provides a description of each mitigation site and a summary of the mitigation site resources (Table 4-5). The mitigation sites are located off-site but in the vicinity of the project within Criteria Cells 3887, 3891, 3791, 3684, and 3792.

No mitigation properties or lands have been acquired to date. Once a Record of Decision has been issued for the final environmental document, RCTC will initiate the process to acquire mitigation lands. There are five proposed mitigation sites (four of which mitigate for smooth tarplant impacts) that have been evaluated at a cursory level; all five sites include a combined total of 241 acres. **Final mitigation site selection and a Habitat Management and Monitoring Plan and updated DBESP will be submitted to the RCA and Wildlife Agencies prior to acquisition of any mitigation property.** RCTC will acquire mitigation lands prior to the start of construction. Once the properties have been acquired, the lands will be transferred directly to the RCA, or a conservation easement will be recorded. If one or more of the proposed mitigation sites are not available for acquisition, RCTC will consult with the RCA and Wildlife Agencies to identify alternative mitigation options.

The project is located within an Additional Survey Needs and Procedures Area for Burrowing Owl. CH2M Hill and Bloom Biological, Inc. biologists conducted a habitat assessment and focused surveys during 2005 and 2006. A baseline habitat assessment was conducted throughout the study area on January 24, 2005. Habitat suitability was determined by driving and walking throughout the study area. Initial habitat suitability determinations were refined throughout the 2005 and 2006 focused surveys as the study area was walked and surveyed for burrowing owl indicators. Focused surveys were conducted in accordance with guidelines from the California Burrowing Owl Consortium (CBOC), California Department of Fish and Game (CDFG), CDFG approved project-specific survey methodology, MSHCP, and County of Riverside Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area (CBOC 1993, CDFG 1995, Dudek 2003, County 2006). Due to the project's large scale, a revised survey methodology was approved by CDFG. The study area consisted of the Project Impact Area and an additional 500 foot buffer. Most of the study area is suitable burrowing owl habitat. Habitat considered not suitable for burrowing owls included developed areas with 100-percent asphalt or concrete, areas being actively graded for development, landscaped vegetation, and steep hillsides. During 2005 and 2006, focused breeding season surveys were conducted during the peak breeding season, between April 15 and July 1. A total of three surveys were conducted after July 15 but still occurred within the nesting cycle (February 1 to August 31). The MSHCP Consistency Determination and DBESP (2015) and the Final Burrowing Owl Survey Report (2007) provides details on the survey methodology. The project would directly impact one burrowing owl pair located in excellent habitat, in an agricultural field north of the Hemet Channel and south of Ranchland Road in Roadway Segment C (RIV-BUO-023; see Figure 4.3-2 of the MSHCP



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Consistency Determination and DBESP). An additional four pairs of owls were identified within the indirect impact area (500 foot buffer) of Roadway Segments C and G (see Figure 4.3-2 and Table 4-10 of the MSHCP Consistency Determination and DBESP). Avoidance and minimization measures to avoid owl take, and address direct and indirect effects to owls include: conducting preconstruction surveys at least 30 days (and no less than 14 days per CDFW [2012]) prior to ground disturbing activities in order to identify any owls that may have colonized suitable habitat areas; conducting preconstruction presence/absence surveys within suitable habitat in each year of construction, during the Spring, immediately prior to ground disturbance and construction activities; if owls cannot be avoided, active or passive relocation will be implemented in accordance with a burrowing owl relocation/translocation plan (as described in the MSHCP Consistency Determination and DBESP) that will be submitted to the wildlife agencies for approval 60–90 days prior to ground-disturbing activities. In addition, minimization measures such as use of disturbance buffers, visual screening, and marking off nests to avoid accidental disturbance will be implemented for burrowing owls found 75 m (225 ft.) or less from the Project Impact Area that are not relocated. In addition to the avoidance and minimization measures, suitable burrowing owl habitat will be conserved as part of the mitigation strategy for Riparian/Riverine resources (see Section 4.1.1.3 of the MSHCP Consistency Determination and DBESP). Most of the burrowing owls detected during the focused surveys were found in the central portion of the project within the vicinity of the proposed five mitigation sites. All five proposed mitigation sites include upland habitat suitable for burrowing owls (see Section 4.3.3.3, Assessment of Proposed Mitigation Sites, of the MSHCP Consistency Determination and DBESP). **RCTC will submit pre-construction surveys to the RCA and Wildlife Agencies and will consult with the same prior to actively or passively relocating any owls.**

The project is located within an Additional Survey Needs and Procedures Area for Los Angeles pocket mouse (LAPM) and San Bernardino kangaroo rat (SBKR). According to the Final Sensitive Small Mammal Focused Survey Report dated December 4, 2007, field assessment and trapping surveys were conducted for LAPM and SBKR (and other selected species) in August and September 2005 and April and June 2006 by CH2M Hill and SJM Biological Consultants. The surveys followed the requirements of the MSHCP survey protocols for LAPM and SBKR, as well as the survey protocols developed by CDFW and USFWS. Live-trapping was conducted when LAPM and SBKR were most likely to be active aboveground; for LAPM, this is generally between April 15 and October 15 and for SBKR there is no defined trapping period. Suitable habitat for LAPM and SBKR exists within the project area. No SBKR were found within the survey area. LAPM were found in the northern end of the Project Impact Area within Roadway Segment N; however, this area is outside of the MSHCP Mammal Survey Area (see Figure 4.3-4 of the MSHCP Consistency Determination and DBESP). Although the project would impact occupied LAPM habitat, the occupied LAPM habitat is outside of the MSHCP Mammal Survey Area, therefore it does not have long term conservation value and no mitigation is required. Based on the information provided by Caltrans, the project demonstrates consistency with Section 6.3.2 of the MSHCP.

- d. Section 6.1.4: Future and existing Conservation Areas are located within and near the project site. To preserve the integrity of areas dedicated as MSHCP Conservation Areas, the guidelines contained in Section



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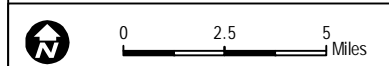
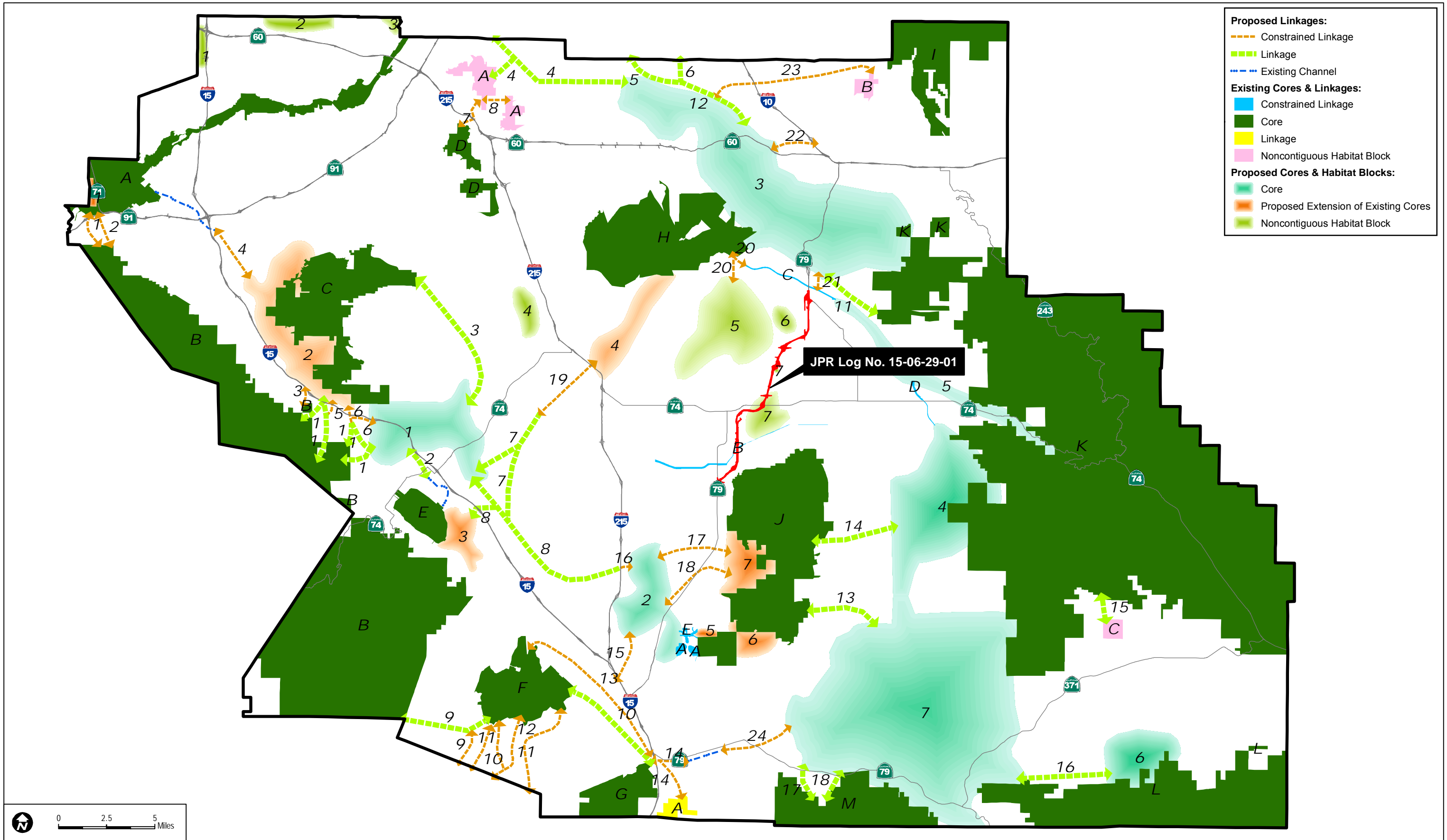
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Date: 9-30-2015

6.1.4 related to controlling adverse effects for development adjacent to the MSHCP Conservation Area should be considered by the Permittee in their actions relative to the project. Specifically, the Permittee should include as project conditions of approval the following measures:

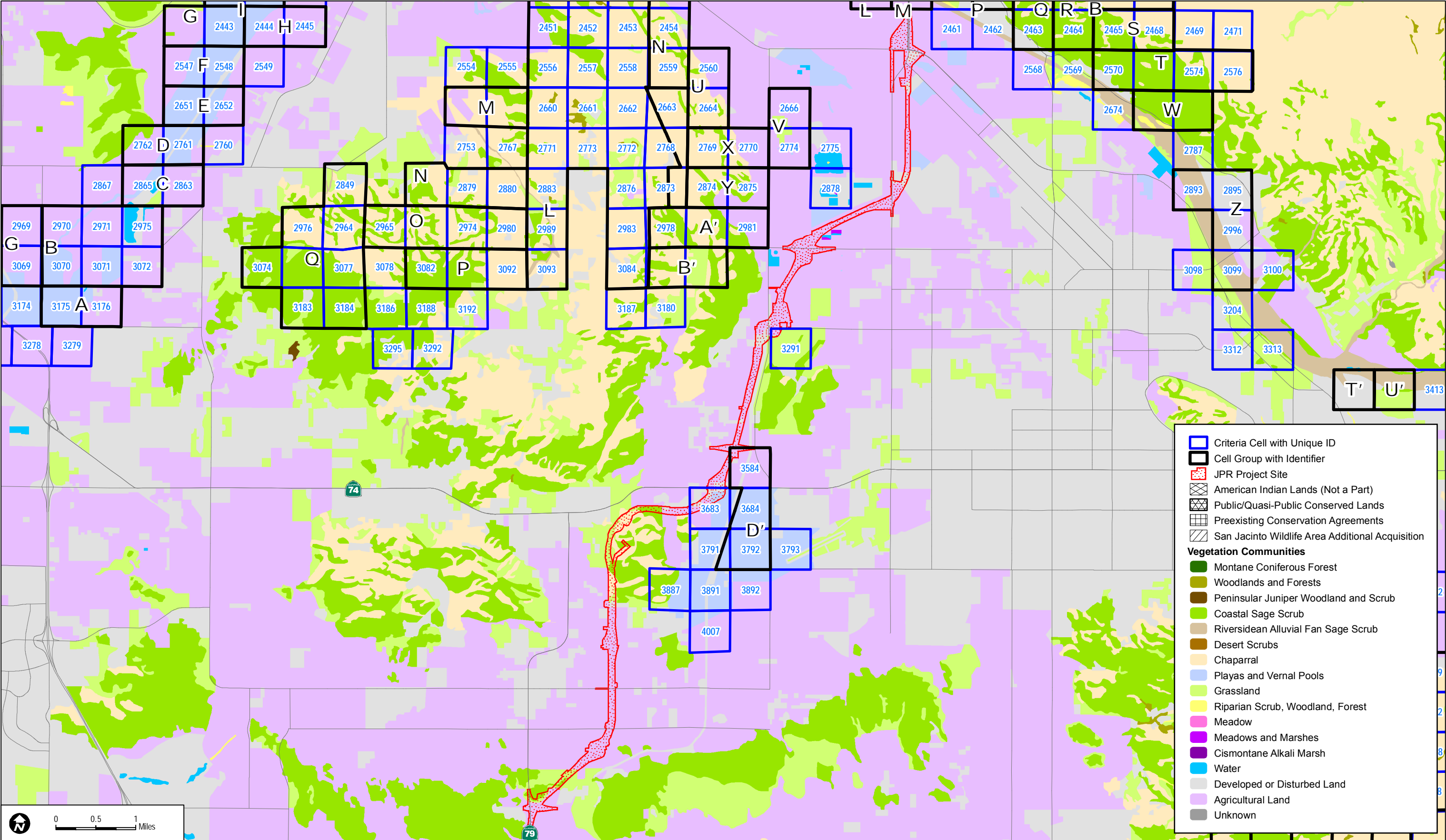
- i. Incorporate measures to control the quantity and quality of runoff from the site entering the MSHCP Conservation Area. In particular, measures shall be put in place to avoid discharge of untreated surface runoff from developed and paved areas into MSHCP Conservation Areas.
- ii. Land uses proposed in proximity to the MSHCP Conservation Area that use chemicals or generate bioproducts, such as manure, that are potentially toxic or may adversely affect wildlife species, Habitat, or water quality shall incorporate measures to ensure that application of such chemicals does not result in discharge to the MSHCP Conservation Area. The greatest risk is from landscaping fertilization overspray and runoff.
- iii. Night lighting shall be directed away from the MSHCP Conservation Area to protect species within the MSHCP Conservation Area from direct night lighting. Shielding shall be incorporated in project designs to ensure ambient lighting in the MSHCP Conservation Area is not increased.
- iv. Proposed noise-generating land uses affecting the MSHCP Conservation Area shall incorporate setbacks, berms, or walls to minimize the effects of noise on MSHCP Conservation Area resources pursuant to applicable rules, regulations, and guidelines related to land use noise standards.
- v. Consider the invasive, non-native plant species listed in Table 6-2 of the MSHCP in approving landscape plans to avoid the use of invasive species for the portions of the project that are adjacent to the MSHCP Conservation Area. Considerations in reviewing the applicability of this list shall include proximity of planting areas to the MSHCP Conservation Areas, species considered in the planting plans, resources being protected within the MSHCP Conservation Area and their relative sensitivity to invasion, and barriers to plant and seed dispersal, such as walls, topography, and other features.
- vi. Proposed land uses adjacent to the MSHCP Conservation Area shall incorporate barriers, where appropriate, in individual project designs to minimize unauthorized public access, domestic animal predation, illegal trespass, or dumping into the MSHCP Conservation Areas. Such barriers may include native landscaping, rocks/boulders, fencing, walls, signage, and/or other appropriate mechanisms.
- vii. Manufactured slopes associated with the proposed site development shall not extend into the MSHCP Conservation Area.

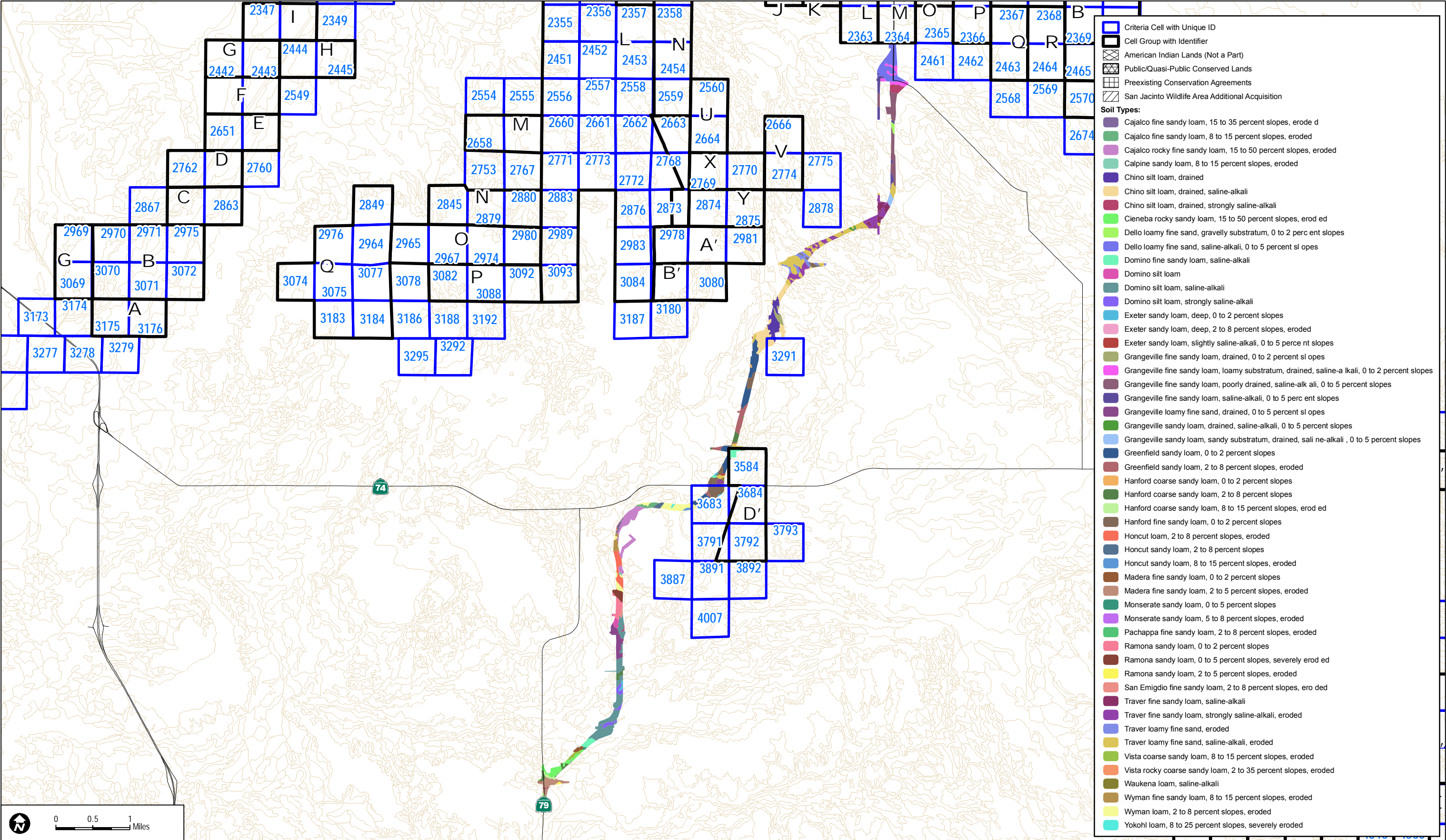
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SOURCE: Western Riverside County Regional Conservation Authority 2015; County of Riverside 2015





Regional Map JPR 15-06-29-01

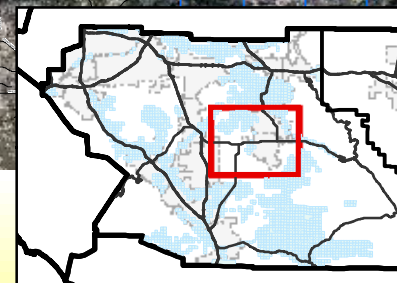
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JPR Projects

-  Avoidance Area
-  Cell Tower No Conservation
-  Proposed Development
-  Public Project
-  Proposed MSHCP Conservation Area
-  Proposed Other Conservation Area (Riparian / Riverine 404 Permit)
-  Restoration Project / MSHCP Conservation Area
-  Unknown
-  Project Boundary
-  RCA MSHCP Conserved Lands
-  Public / Quasi-Public Conserved Lands
-  Criteria Cells
-  Cities
-  Waterbodies
-  Highways



RCTC SR79 Realignment
Rough Step Units 3 & 6

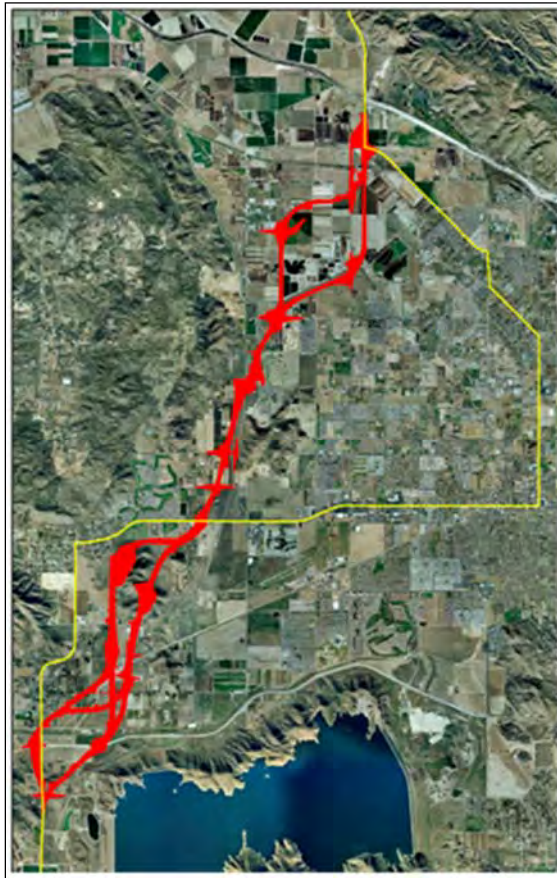


**Western Riverside County Multiple Species Habitat
Conservation Plan Consistency Determination
including Determination of Biologically Equivalent or
Superior Preservation
August 31, 2015**

State Route 79 Realignment Project: Domenigoni Parkway to Gilman Springs Road

Riverside County, California
District 8-RIV-79-PM R15.78/R33.80
08-494000
PN 0800000784

Western Riverside County Multiple Species Habitat Conservation Plan Consistency Determination including Determination of Biologically Equivalent or Superior Preservation



Prepared by the State of California Department of Transportation

The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried-out by Caltrans under its assumption of responsibility pursuant to 23 USC 327.



August 31, 2015

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- A-4 Final Sensitive Wildlife Survey Report
- A-5 Final Burrowing Owl Survey Report
- A-6 Final Sensitive Small Mammal Focused Survey Report

Summary

The Riverside County Transportation Commission (RCTC), in cooperation with the California Department of Transportation (Department), the County of Riverside, the City of Hemet, and the City of San Jacinto, has proposed a project for the realignment of State Route 79 (SR 79) [Project] in the vicinity of the cities of Hemet and San Jacinto in Riverside County, California. The Project would realign SR 79 from just south of Domenigoni Parkway to Gilman Springs Road. This realignment would facilitate the regional movement of people and goods, enhance safety, and protect right-of-way (ROW) for future improvements and would provide a more efficient connection between Domenigoni Parkway and Gilman Springs Road. The completed Project would be a limited-access highway with accommodation for oversized trucks and would not preclude future multimodal transportation systems. The California Department of Transportation (Department) is the lead agency under the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

This document has been prepared to show Project consistency with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), and includes applicable Determinations of Biologically Equivalent or Superior Preservation (DBESP) alternatives.

The preferred alternative is Build Alternative 1br, and would impact the following MSHCP resources:

- Existing Constrained Linkage B
- Proposed Noncontiguous Habitat Block 7
- Riparian/Riverine Resources
- Vernal Pools
- Smooth Tarplant (Criteria Area 3 Species)
- Burrowing Owl

DBESP alternatives have been prepared for impacts to riparian/riverine, vernal pools, smooth tarplant, and burrowing owl and are presented throughout Chapter 4. The DBESP alternatives include purchasing land containing riparian/riverine resources, vernal pools, and smooth tarplant populations, as well as a burrowing owl relocation plan. Table S-1 depicts a summary of impacts to MSHCP Resources within Build Alternative 1br, including specific project activities associated with the impacts, as well as proposed DBESP mitigation measures.

Table S-1 Summary of MSHCP Impacts and Proposed DBESP

MSHCP Resource	Permanent Direct (acres)	Permanent Indirect (acres)	Temporary Impacts (acres)	Total Impact (acres)	Activity Associated with MSHCP Resource Impact*	**LTCV	Proposed DBESP Mitigation
Existing Constrained Linkage B	0.004	0.0	5.7	5.7	Bridge Columns	N/A	No
Proposed Noncontiguous Habitat Block 7	60.5	0.0	0.0	60.5	Roadway Feature	N/A	No
Riparian***	5.27	0.0	0.0	5.27	Roadway Feature	N/A	18.6 acres of vernal pools; 1.85 acres of seasonal wetlands; and 1.26 acres of constructed ponds (21.71 acres total). Off-site preservation and establishment, reestablishment, and/or enhancements (Section 4.1.1.3)
Riverine	Bridge pilings only: 0.004 within Salt Creek Channel	0.0	3.48	3.48	Bridge Columns and construction access	N/A	On site restoration for temporarily impacted areas; same as off-site preservation for riparian habitat for permanently impacted areas (Section 4.1.1.3)
MSHCP Vernal Pools	1.99	0.0	0.0	1.99	Roadway Feature	N/A	18.6 acres of vernal pools; 1.85 acres of seasonal wetlands; and 1.26 acres of constructed ponds (21.71 acres total). Off-site preservation (Section 4.1.3.3)
Fairy Shrimp	0.0	0.0	0.0	0.0	N/A	N/A	No

Table S-1 Summary of MSHCP Impacts and Proposed DBESP

MSHCP Resource	Permanent Direct (acres)	Permanent Indirect (acres)	Temporary Impacts (acres)	Total Impact (acres)	Activity Associated with MSHCP Resource Impact*	**LTCV	Proposed DBESP Mitigation
<i>Criteria Area Species Survey Area Plants (Area 3)</i>							
Smooth tarplant (CASSA 3)	0.15	0.0	0.0	0.15	Roadway Feature	Yes b/c located within Cells 3683, 3584, and 3291	1.2 acres; Off-site preservation (Section 4.3.1.3)
<i>Amphibians</i>	0.0	0.0	0.0	0.0	N/A	No	No
<i>Burrowing Owl</i>	1 pair (BUOW-023)	4 pairs (BUOW-005, 006,024,052)	0.0	5 pairs	Roadway Feature	Yes	Approximately 242 acres; Off-site preservation (Section 4.3.3.3). Burrowing Owl Relocation Plan (Section 4.3.3.3)
<i>Mammals</i>							
Los Angeles Pocket Mouse	0.0	0.0	0.0	0.0	N/A	N/A	No
San Bernardino Kangaroo Rat	0.0	0.0	0.0	0.0	N/A	N/A	No
Aguanga Kangaroo Rat	0.0	0.0	0.0	0.0	N/A	N/A	No

* A roadway feature consists of the road itself on an embankment.

** LTCV = Long-term Conservation Value

*** The riparian category includes seasonal wetlands, as they did not meet the definition of an MSHCP vernal pool and exhibited riparian/riverine characteristics

Chapter 1 Introduction

Riverside County Transportation Commission (RCTC) is a Permittee to the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) that was adopted by the County of Riverside in June 2003. As a Permittee, RCTC has the responsibility to implement and adhere to the provisions of the MSHCP as well as the Implementing Agreement issued by the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW). The MSHCP is a comprehensive, multijurisdictional habitat conservation plan and Natural Communities Conservation Plan (NCCP). The MSHCP focuses on the conservation of species and their associated habitats in western Riverside County. The MSHCP allows Permittees to obtain take of plant and animal species identified by the MSHCP. Regulation of take of threatened, endangered, and rare species is authorized by the wildlife agencies (USFWS and CDFW). The wildlife agencies allow take authorization for otherwise lawful actions (e.g., public and private projects) in exchange for the assembly and management of a coordination Reserve.

The MSHCP plan area encompasses approximately 1.26 million acres and includes all unincorporated land in Riverside County west of the crest of the San Jacinto Mountains to the Orange County line, as well as the jurisdictional areas of the Cities of Eastvale, Jurupa Valley, Wildomar, Menifee, San Jacinto, Hemet, Perris, Calimesa, Beaumont, Banning, Moreno Valley, Riverside, Corona, Norco, Canyon Lake, Lake Elsinore, Murrieta and Temecula. The Conservation Area, or Reserve, will be assembled from the area referred to as the Criteria Area, which consists of one-quarter-section cells of approximately 160 acres, each with specific descriptions, or criteria, identifying the conservation requirements. Figure 1.0-1 shows the regional project location, and Figures 1.0-2 a through j depicts the location of the State Route 79 alignment for Build Alternative 1b with Refinements (1br), which is the selected preferred alternative, along with the Criteria Cells of the MSHCP.

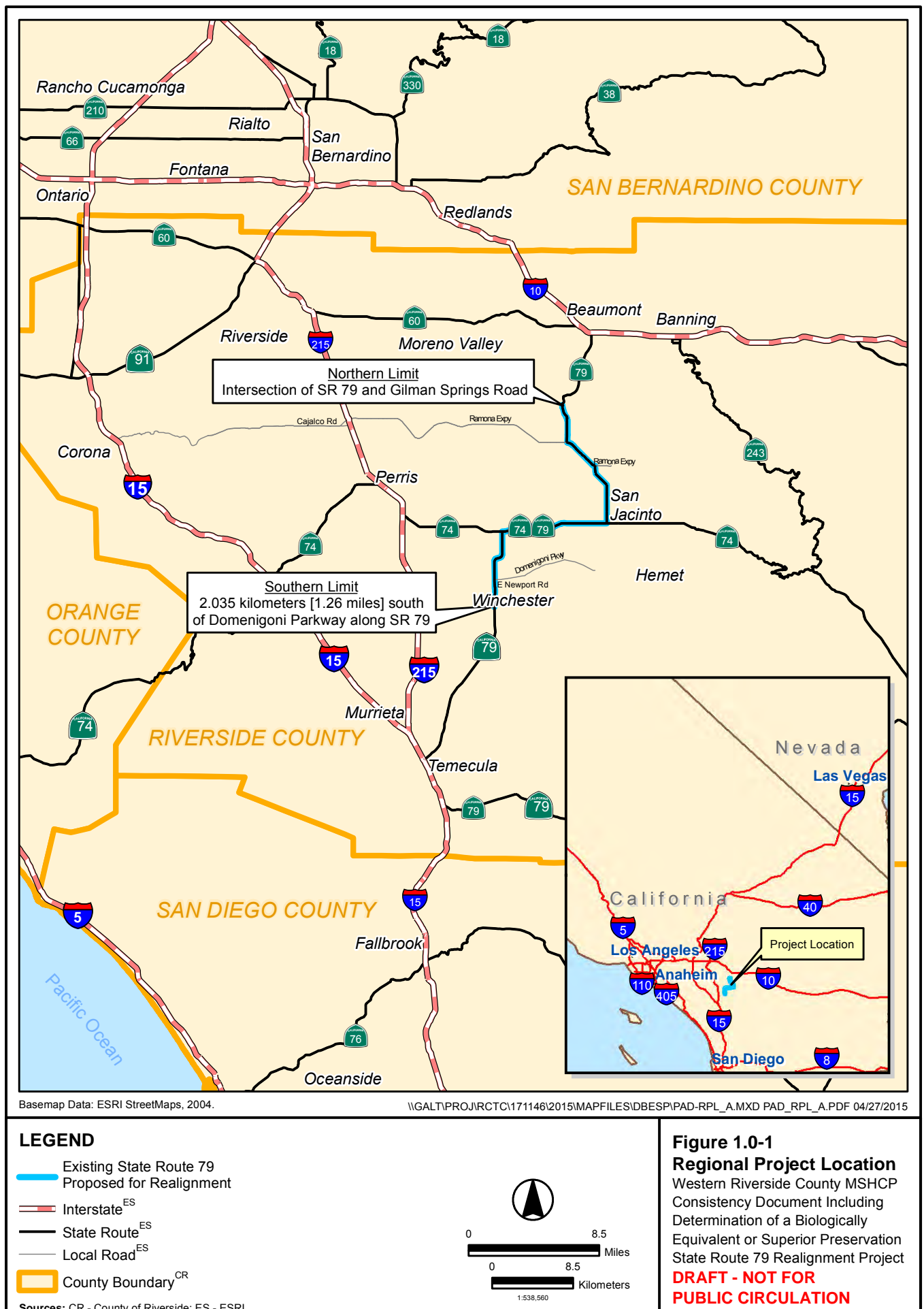
The Conservation Area will total 500,000 acres when complete, which is projected to occur by 2028. Of that 500,000 acres, 347,000 acres were already Conserved at the time the MSHCP was adopted in 2003. These 347,000 acres are referred to as Public/Quasi-Public (PQP) Lands, as they are under a type of government ownership where development is not likely. The cities and the County of Riverside, as the Local Permittees, have the responsibility to build out the remaining acreage of the Reserve, which equates to 153,000 acres by 2028. It is through the development and entitlement process that the majority of the 153,000 acres will be assembled for Conservation.

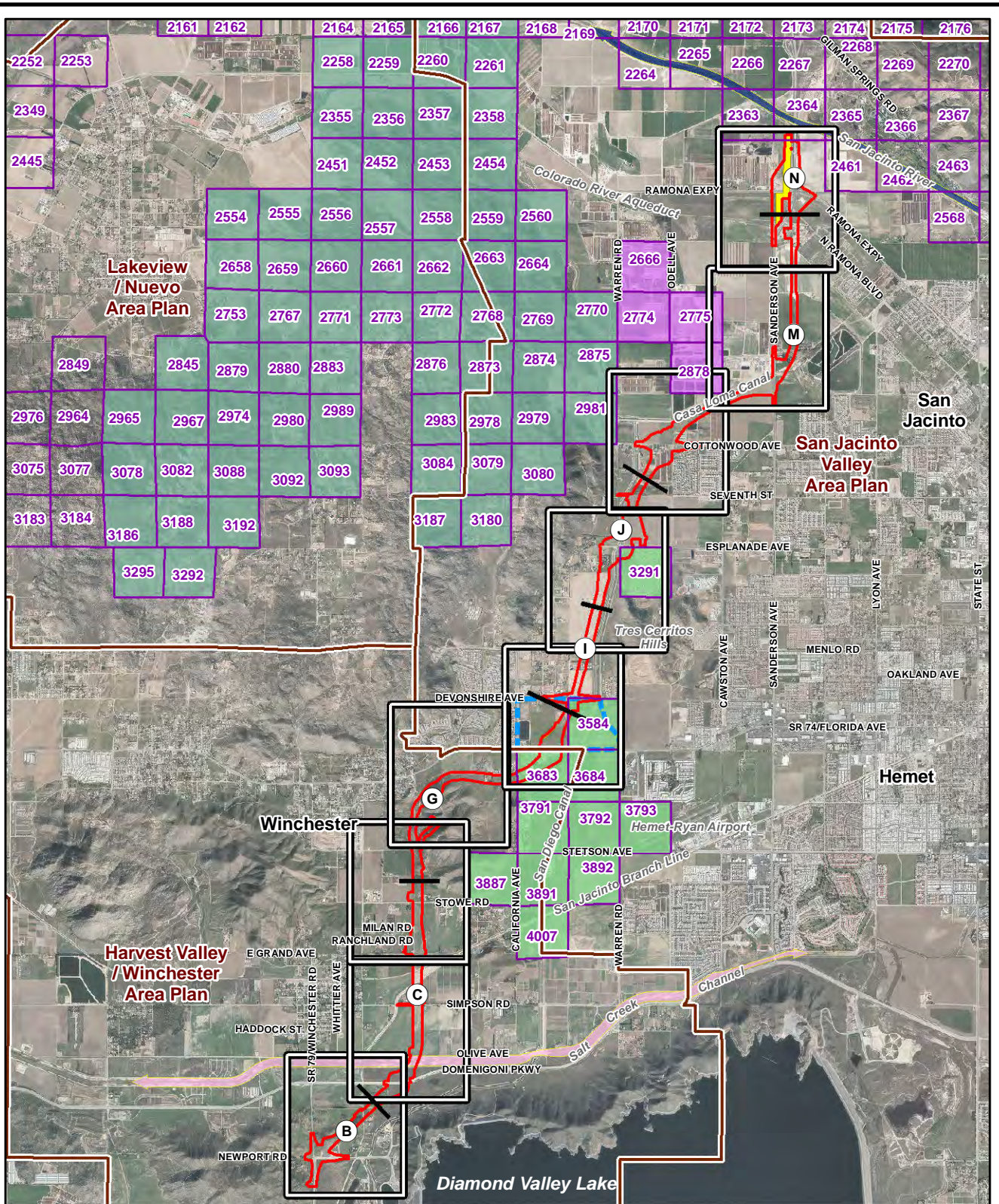
Since RCTC is a Permittee under the MSHCP, they have a responsibility to comply with and uphold the goals and objectives of the MSHCP for every project they undertake in western Riverside County. For RCTC, complying with the MSHCP includes contributing funds toward acquisitions of Conservation Land and complying with the following sections of the MSHCP:

1. Compliance with the policies for the protection of species associated with riparian/riverine areas and vernal pools in Section 6.1.2 of the MSHCP

2. Compliance with the policies for the protection of Narrow Endemic Plant Species Survey Areas (NEPSSA) in Section 6.1.3 of the MSHCP
3. Compliance with additional survey needs and procedures in Section 6.3.2 of the MSHCP
4. Compliance with the urban–wildlands interface guidelines in Section 6.1.4 of the MSHCP
5. Compliance with the siting and design criteria set forth in Sections 7.5.1 and 7.5.2 of the MSHCP, as well as the best management practices (BMPs) in Section 7.5.3 and Appendix C of the MSHCP (Section 13.7 (A) of the MSHCP Implementing Agreement).

This document provides the analysis and compliance with the MSHCP for RCTC’s SR 79 Realignment Project (Project). Based on the information already provided in the Draft Environmental Impact Report/Draft Environmental Impact Statement (DEIR/DEIS), the Project will result in several impacts to species and habitats that will require the preparation of determination of biologically equivalent or superior preservation (DBESP) plans to mitigate for those impacts.





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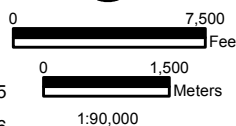
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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- Area Plan Boundary^{CR}

MSHCP Criteria Cell^{CR}

- Proposed Noncontiguous Habitat Block 7
- Existing Constrained Linkage B
- Existing Constrained Linkage C
- Proposed Noncontiguous Habitat Block 5
- Proposed Noncontiguous Habitat Block 6

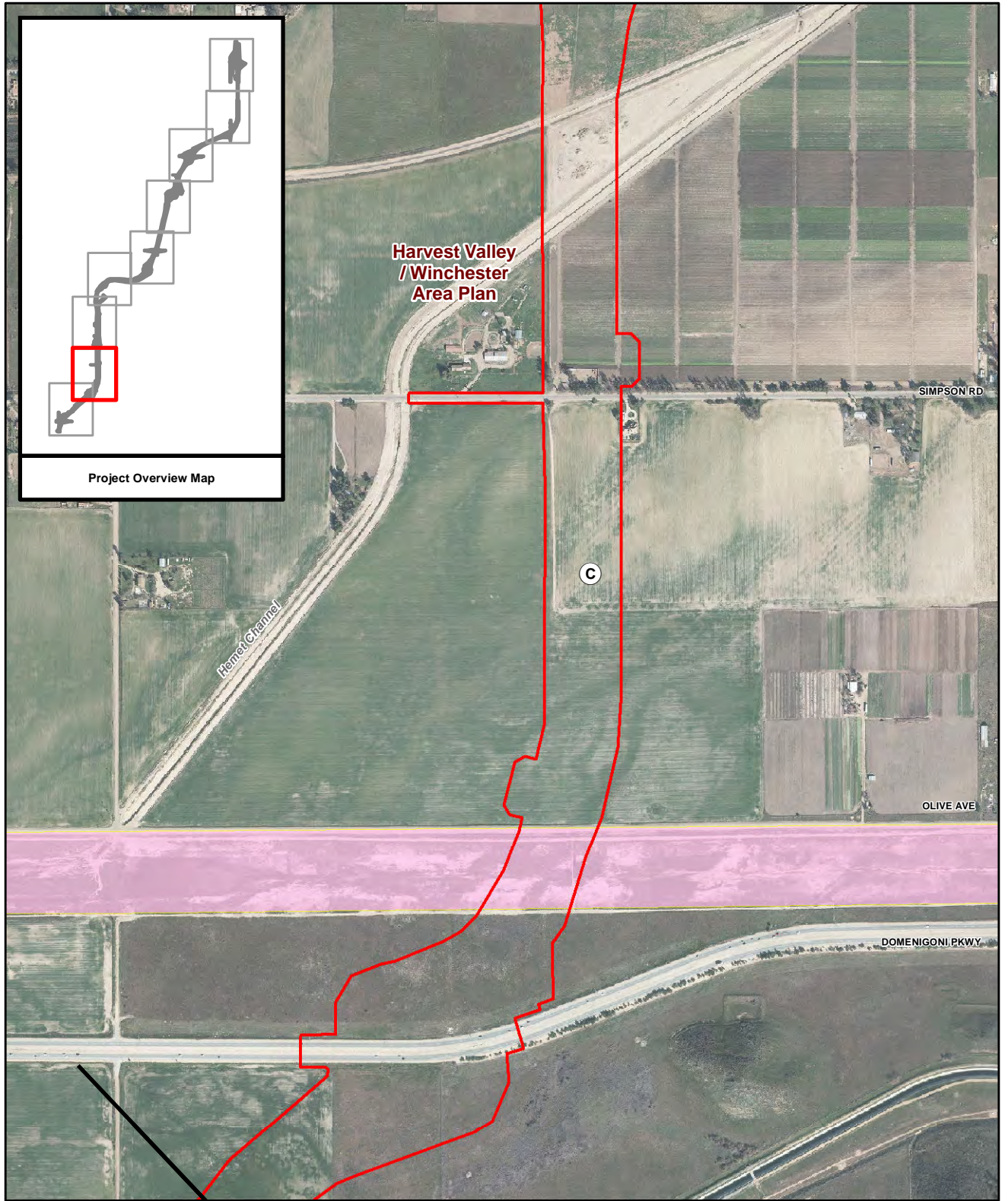


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Figure 1.0-2a Build Alternative 1br Criteria Cells, Cores and Linkages, and Area Plans Overview

Western Riverside County MSHCP
Consistency Document Including
Determination of a Biologically
Equivalent or Superior Preservation
State Route 79 Realignment Project

Source: CR - County of Riverside



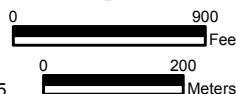
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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- Area Plan Boundary^{CR}

- MSHCP Criteria Cell^{CR}
- MSHCP Linkage^{CR}
- Proposed Noncontiguous Habitat Block 7
- Existing Constrained Linkage B
- Existing Constrained Linkage C
- Proposed Noncontiguous Habitat Block 5
- Proposed Noncontiguous Habitat Block 6



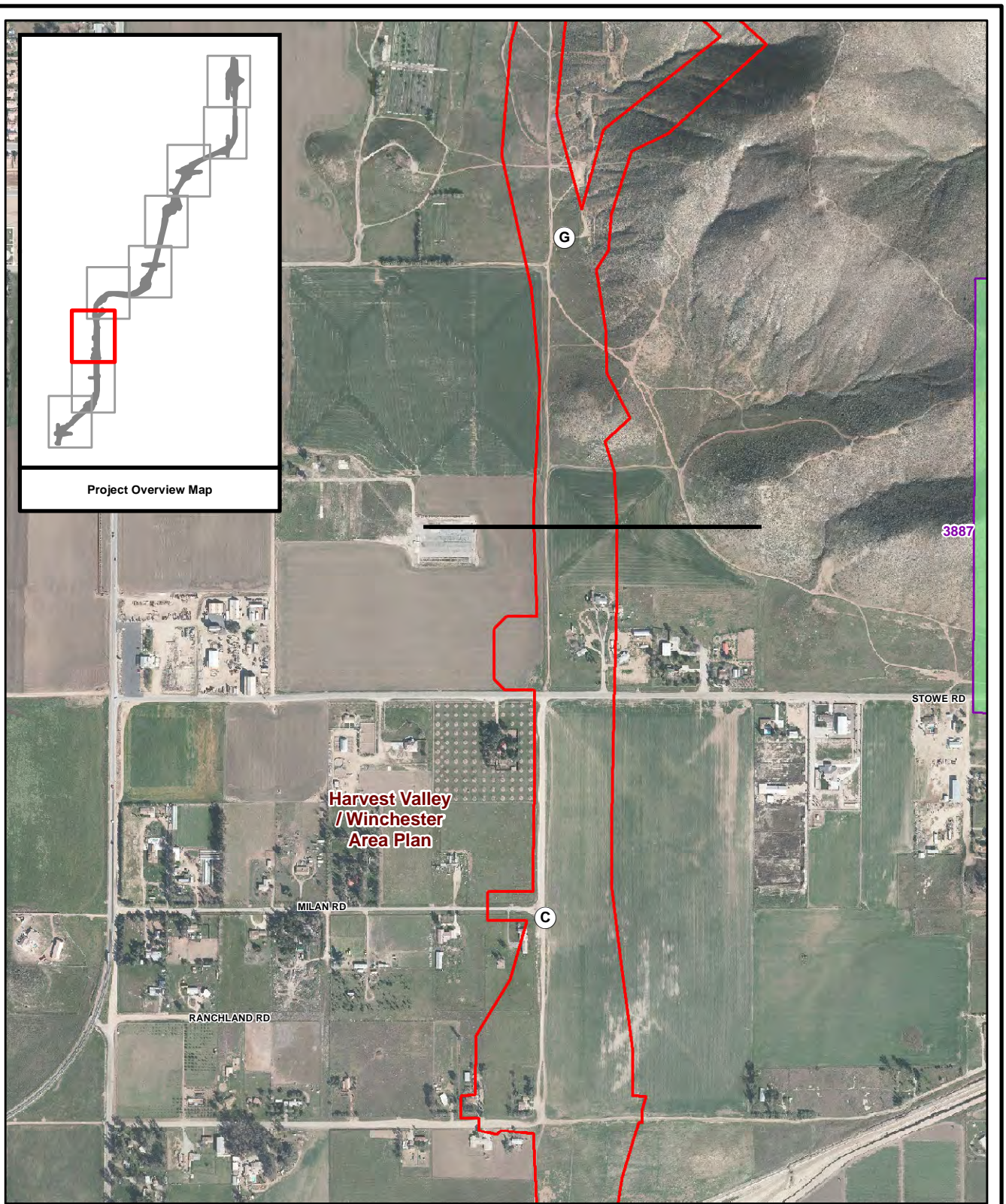
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Figure 1.0-2c Build Alternative 1br Criteria Cells, Cores and Linkages, and Area Plans

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State Route 79 Realignment Project

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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- Area Plan Boundary^{CR}

- MSHCP Criteria Cell^{CR}
- MSHCP Linkage^{CR}
 - Proposed Noncontiguous Habitat Block 7
 - Existing Constrained Linkage B
 - Existing Constrained Linkage C
 - Proposed Noncontiguous Habitat Block 5
 - Proposed Noncontiguous Habitat Block 6



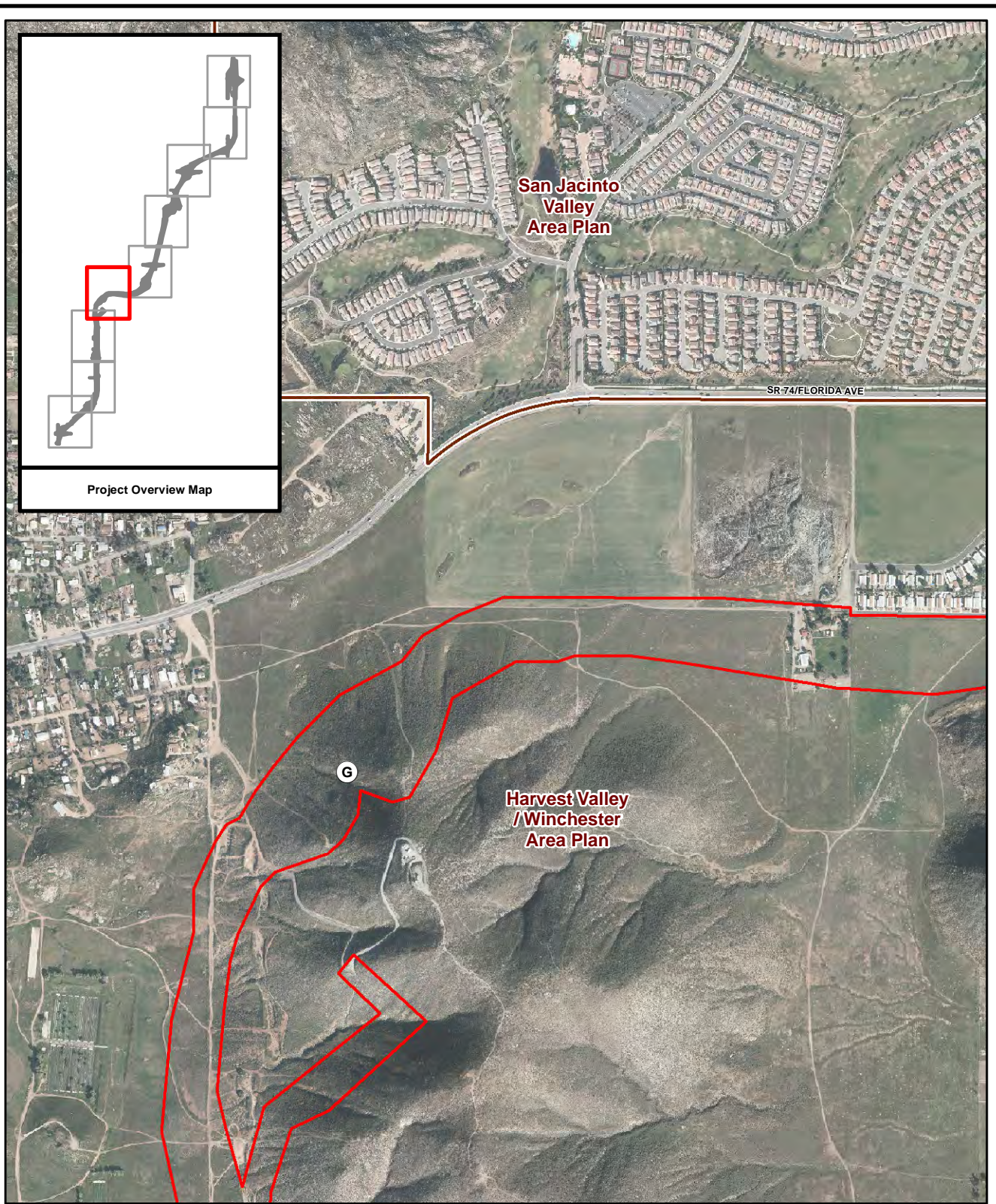
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Figure 1.0-2d Build Alternative 1br Criteria Cells, Cores and Linkages, and Area Plans

Western Riverside County MSHCP
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State Route 79 Realignment Project

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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- Area Plan Boundary^{CR}

MSHCP Criteria Cell^{CR}
MSHCP Linkage^{CR}

- Proposed Noncontiguous Habitat Block 7
- Existing Constrained Linkage B
- Existing Constrained Linkage C
- Proposed Noncontiguous Habitat Block 5
- Proposed Noncontiguous Habitat Block 6



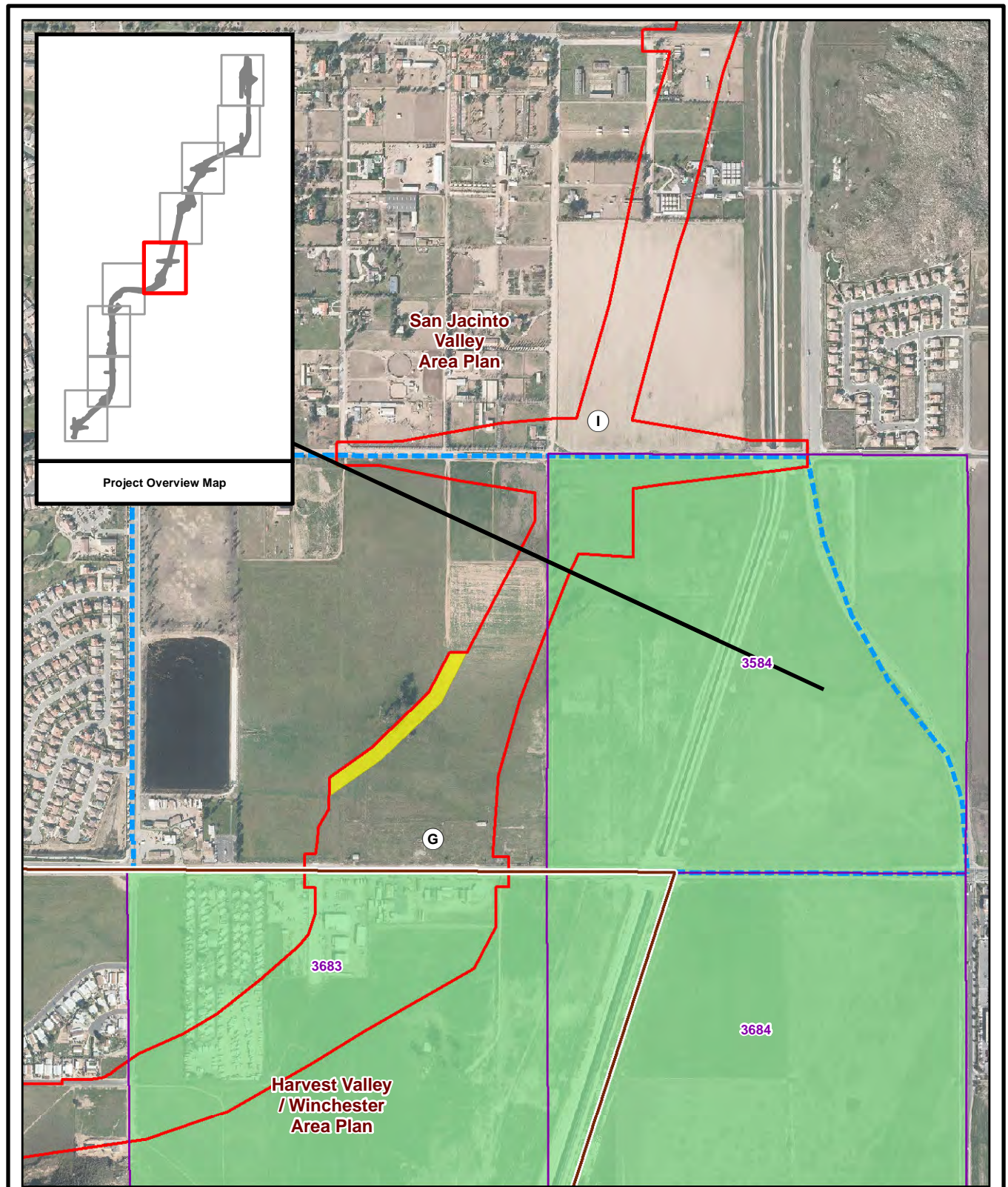
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Figure 1.0-2e Build Alternative 1br Criteria Cells, Cores and Linkages, and Area Plans

Western Riverside County MSHCP
Consistency Document Including
Determination of a Biologically
Equivalent or Superior Preservation
State Route 79 Realignment Project

Source: CR - County of Riverside



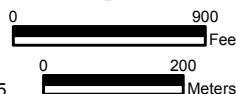
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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- Area Plan Boundary^{CR}

- MSHCP Criteria Cell^{CR}
- MSHCP Linkage^{CR}
 - Proposed Noncontiguous Habitat Block 7
 - Existing Constrained Linkage B
 - Existing Constrained Linkage C
 - Proposed Noncontiguous Habitat Block 5
 - Proposed Noncontiguous Habitat Block 6



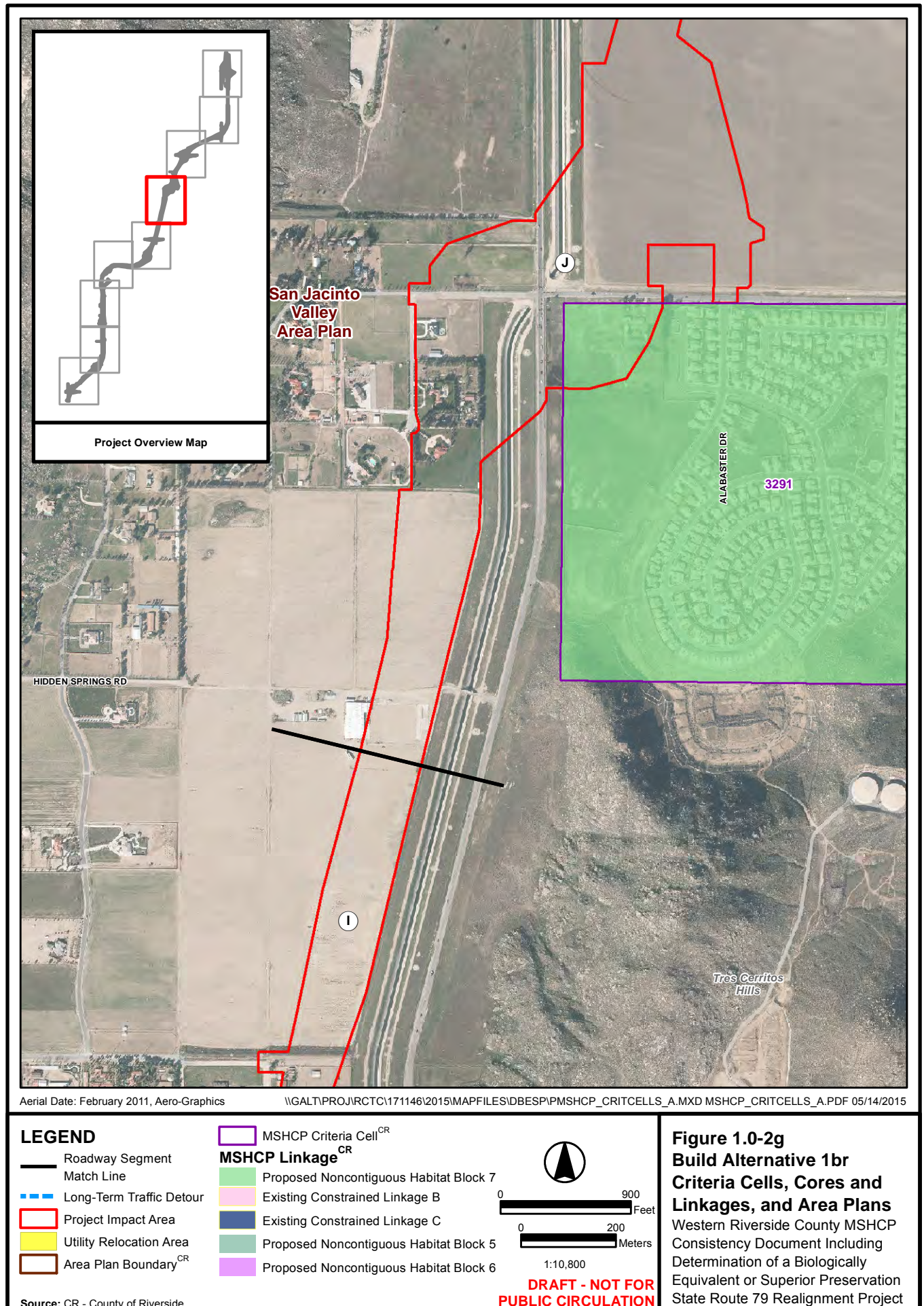
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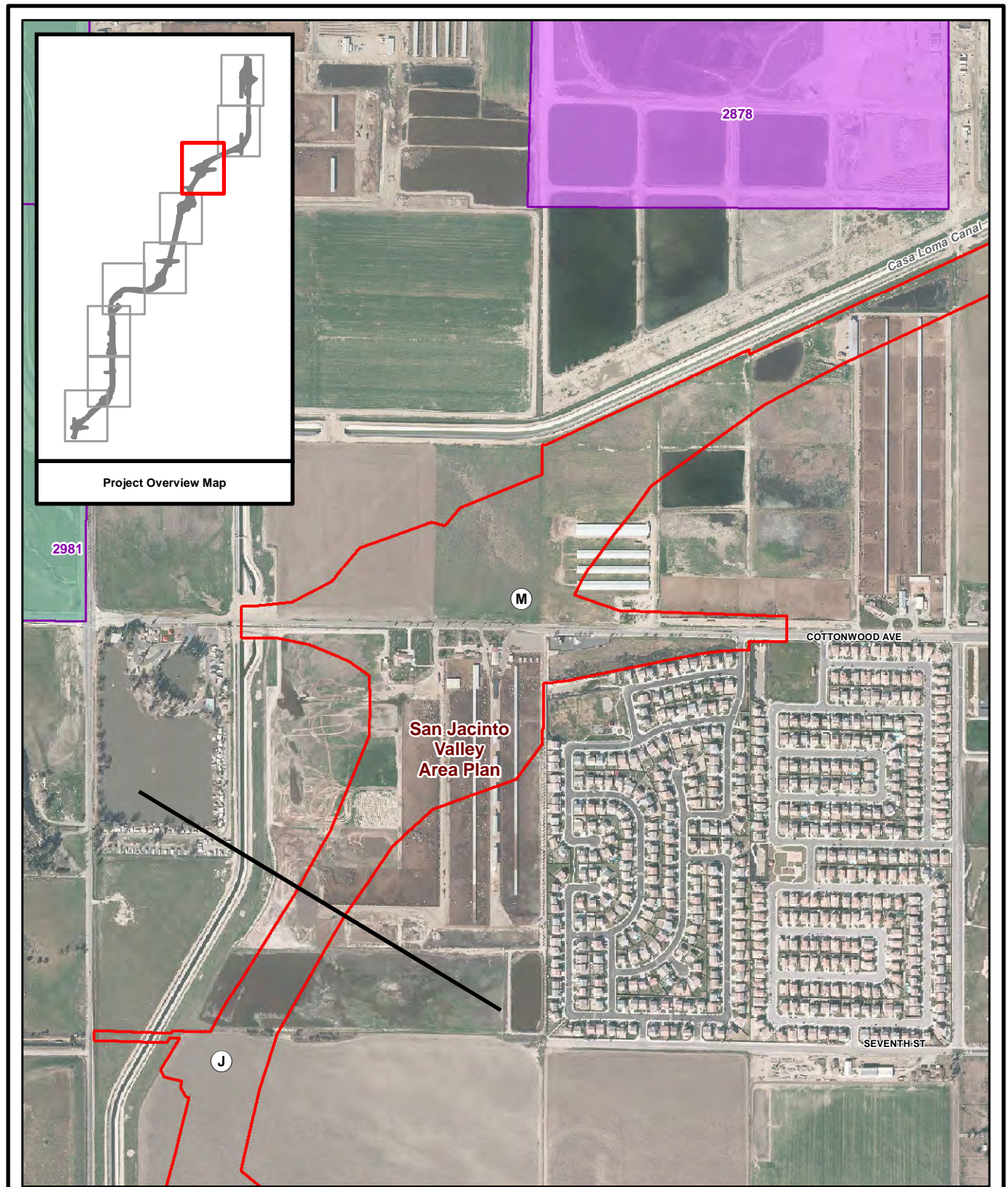
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Figure 1.0-2f Build Alternative 1br Criteria Cells, Cores and Linkages, and Area Plans

Western Riverside County MSHCP
Consistency Document Including
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State Route 79 Realignment Project

Source: CR - County of Riverside





Aerial Date: February 2011, Aero-Graphics

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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- Area Plan Boundary^{CR}

- MSHCP Criteria Cell^{CR}
- MSHCP Linkage^{CR}
 - Proposed Noncontiguous Habitat Block 7
 - Existing Constrained Linkage B
 - Existing Constrained Linkage C
 - Proposed Noncontiguous Habitat Block 5
 - Proposed Noncontiguous Habitat Block 6



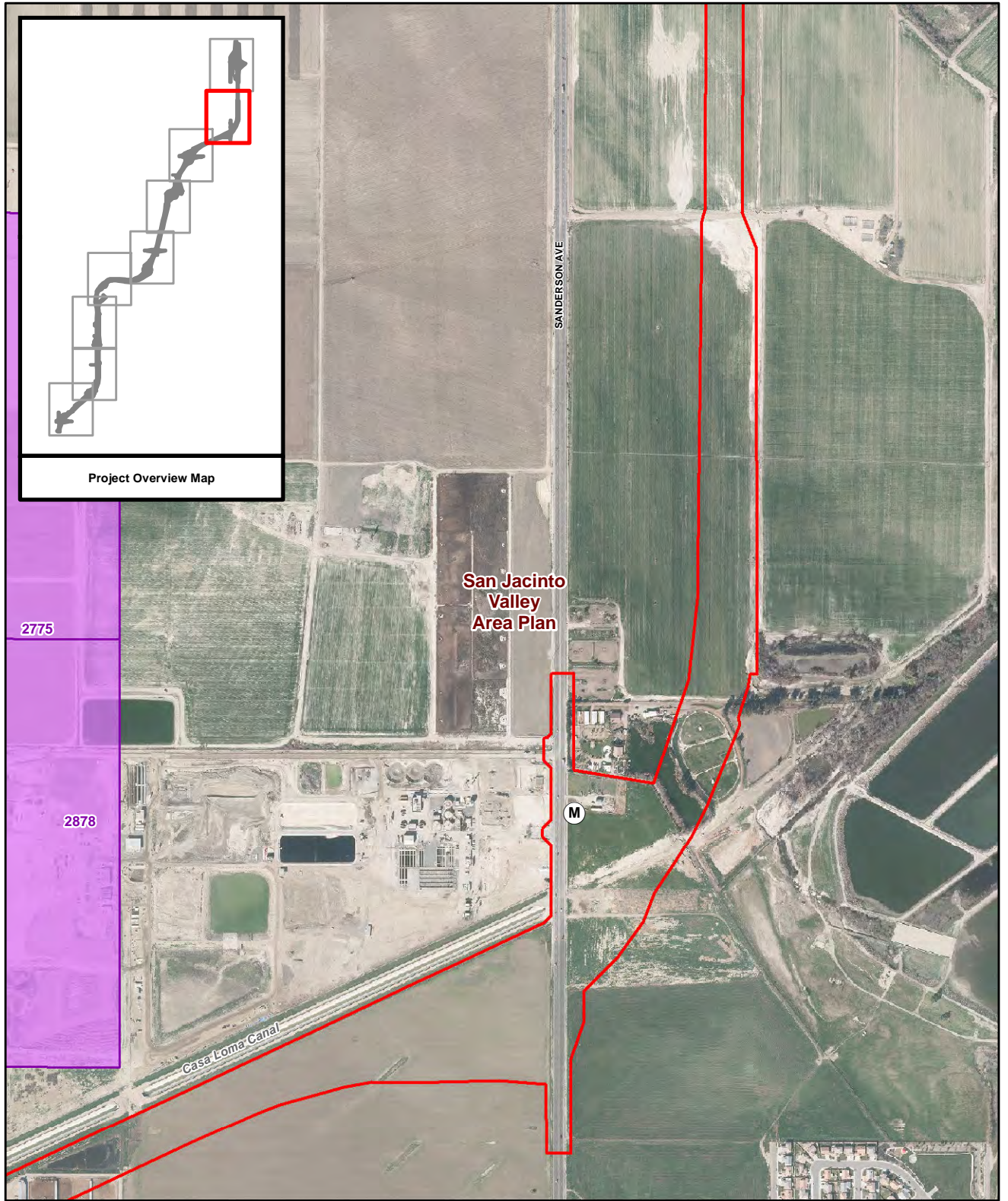
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Figure 1.0-2h Build Alternative 1br Criteria Cells, Cores and Linkages, and Area Plans

Western Riverside County MSHCP
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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- Area Plan Boundary^{CR}

MSHCP Criteria Cell^{CR}
MSHCP Linkage^{CR}

- Proposed Noncontiguous Habitat Block 7
- Existing Constrained Linkage B
- Existing Constrained Linkage C
- Proposed Noncontiguous Habitat Block 5
- Proposed Noncontiguous Habitat Block 6



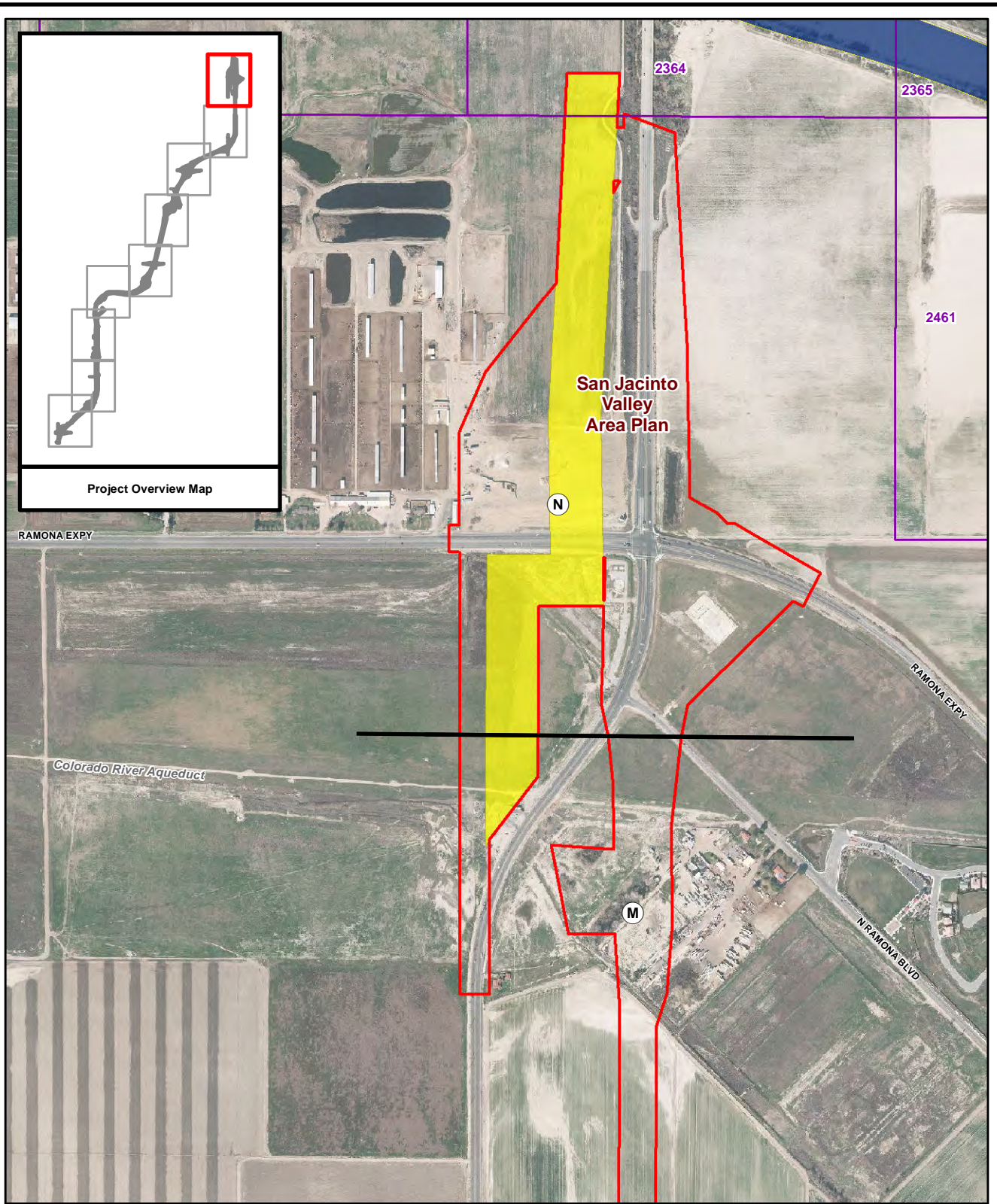
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Figure 1.0-2i Build Alternative 1br Criteria Cells, Cores and Linkages, and Area Plans

Western Riverside County MSHCP
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State Route 79 Realignment Project

Source: CR - County of Riverside



Aerial Date: February 2011, Aero-Graphics

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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- Area Plan Boundary^{CR}

MSHCP Criteria Cell^{CR} MSHCP Linkage^{CR}

- Proposed Noncontiguous Habitat Block 7
- Existing Constrained Linkage B
- Existing Constrained Linkage C
- Proposed Noncontiguous Habitat Block 5
- Proposed Noncontiguous Habitat Block 6



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Figure 1.0-2j Build Alternative 1br Criteria Cells, Cores and Linkages, and Area Plans

Western Riverside County MSHCP
Consistency Document Including
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Equivalent or Superior Preservation
State Route 79 Realignment Project

Source: CR - County of Riverside

Chapter 2 Project Description

2.1 Project Location

The Project would be located near Hemet and San Jacinto in Riverside County, California, beginning just south of Domenigoni Parkway and continuing north to Gilman Springs Road (Figure 1.0-1). The Project would begin at post mile (PM R15.78), which is 2.035 km (1.26 mi) south of Domenigoni Parkway, and end approximately 29 km (18 mi) north at the intersection of SR 79 and Gilman Springs Road (PM R33.80).

2.2 Proposed Project

The Project would be a divided limited-access expressway with four travel lanes (two lanes in each direction). Almost all of the realignment would be new construction, in areas where no such highway exists. Opening Day (2020) conditions for the Project represent the completed construction of Project features that allow the roadway to be opened to public travel and operate as a transportation facility. Construction of additional Project features, primarily to transition signalized at-grade intersections to grade-separated interchanges, will occur at some future date after Opening Day (2020) but prior to the 20-Year Design Horizon (2040). The timing of this additional construction will be determined based on roadway capacity, operation, or safety needs.

The additional construction would be required to incorporate access modifications for the ultimate roadway design, a four-lane freeway (all remaining intersections would be converted to grade-separated interchanges). As stated above, timing would depend on funding, roadway capacity, operation, or safety needs, but the additional construction would be completed after Opening Year (2020) and prior to the 20-Year Design Horizon of the Project (2040). The Opening Year (2020) conditions are shown in Figure 2.2-1 and the 20-Year Design Horizon conditions are illustrated in Figure 2.2-2. Although the Project would be phased, potential environmental impacts have been analyzed for the 20-Year Design Horizon because this condition represents the full Project impact.

Right-of-way (ROW) would include all permanent acquisition, temporary easements, and permanent easements to accommodate construction, operation, and maintenance activities associated with a new transportation facility.

Together, these are called the Project ROW. The Project Impact Area (PIA) includes the Project ROW and all local road improvements made by the Project, including street realignments and cul-de-sacs. The PIA is included in figures to show this.

Temporary impacts to resources included in this DBESP could result from transitory impacts during construction of the Project, such as installation of cofferdams, temporary support structures, and construction access routes that would be removed after a relatively short duration. Additional temporary impacts related to construction could include increased wildlife collision mortality because

of construction vehicles and restricted wildlife movement due to temporary fencing, construction noise, night lighting, and increased human presence from construction personnel.

Build Alternative 1br

The preferred alternative has been identified as Build Alternative 1br, which is comprised of seven roadway segments (B, C, G, I, J, M, and N) and Utility Relocation Areas 1 and 2 [Figures 1.0-2 a through j]. The ultimate concept for the facility is a six-lane expressway (three lanes in each direction). The typical dimensions proposed for the Project are those designated by Riverside County for a six-lane expressway. These dimensions include an 18.2-meter (m) (60-foot [ft]) median and a 67.0-m (220-ft) ROW. This is from Riverside County Road Improvement Standards & Specifications, Ordinance 461, Standard 82.

Roadway segments were designed from a typical cross-section for a limited-access expressway according to these standards. A smaller typical section could be considered during final design to reduce ROW and environmental impacts, but to ensure that all environmental impacts would be analyzed, the smaller cross section was not considered at this time. Based on this cross-section, roadway segments would include inside and outside shoulders, a median, and two lanes in each direction (referred to as the Project roadway). The median width would be 25.8 meters (m) (84.0 feet [ft]) measured from the inside edge of the travel lane on one side of the roadway to the inside edge of the travel lane on the other side. This median width would be consistent with Riverside County Standard 82 because it allows room for a future project to add two more lanes (to achieve the ultimate six-lane concept) without increasing the ROW. Within the median, there would be inside shoulders that are each 1.5 m (5.0 ft) wide. The combined width of the two travel lanes would be 7.2 m (24.0 ft), each 3.6 m (12.0 ft) wide. The outside shoulder width would be 3.0 m (10.0 ft). Side slopes would be required outside the shoulders. An additional 4.6 m (15.0 ft) beyond the toe of slope/top of cut would be provided for maintenance.

Because the width of the side slopes would vary based on the elevation along the roadway, a varying ROW would be required. Therefore, the actual width of the Project ROW would range from 70 m (230 ft) to 620 m (2,035 ft), based on locations that include roadway versus those that include interchanges, respectively.

Build Alternative 1br design features include:

- At-grade intersections to allow at-grade access to, from, or across the realigned SR 79
- Grade-separated interchanges with ramps to allow grade-separated access to and from the realigned SR 79
- Bridges to allow grade-separated roadway crossings of existing features, including local cross streets, surface waterways, and railroad tracks
- Aqueduct crossings to allow continuation of realigned SR 79 across the Metropolitan Water District Colorado River Aqueduct

- Local street improvements to provide adequate at-grade intersection and grade-separated interchange spacing, maintain local access, provide cul-de-sacs on streets where access has been removed, and provide conforming roadway geometry, based on applicable standards
- Drainage facilities to minimize adverse effects to water quality, maintain onsite drainage, and direct offsite storm water away from the Project during operation
- Relocation of utilities

2.3 Vegetation Communities

Section 6.3.1 of the MSHCP contains guidelines on vegetation mapping. Vegetation mapping was performed during the preparation of the MSHCP and is located in Figure 2-1 of the MSHCP. This vegetation dataset is limited by the timeframe within which the data were assembled as well as the precision of the data. The vegetation map represents conditions at the time the data were assembled, in this case 1991 through 1995. The current extent and character of vegetation communities may differ from that depicted on the MSHCP vegetation map, although the maps were recently updated to an alliance level mapping in 2005 (Klein 2005). Therefore, Project-specific vegetation mapping was conducted prior to preliminary design of the Project to provide recommendations on Project siting, design, construction, and operation of the roadway.

The MSHCP habitat type descriptions were used as a starting point for characterizing and describing the vegetation types observed within the study area. The MSHCP vegetation types were then modified as needed using Holland and other classifications (Ducks 1996, RCIP 2003, Holland 1986, CDFG 1998, Klein 2005, WRCHC 1995, White 1997) to describe the habitats at a finer scale.

Eighteen vegetation types, including four agricultural and two ornamental subtypes, and nine sensitive natural plant communities, occur within the Study Area (CDFG 2003) used for vegetation mapping. The Study Area included the PIA plus an additional 100 ft adjacent to the PIA. The results of the vegetation communities are summarized in Table 2-1. The MSHCP does not provide any specific sensitivity rankings for plant communities; however, the sensitivity of natural community types has been inferred using several conservation goals in the MSHCP. Nine habitats are native to the region and are considered sensitive natural communities (CDFG 2003). These sensitive plant communities include:

- Alkali grassland
- Alkali playa
- Cottonwood willow riparian forest
- Emergent wetland
- Mulefat scrub
- Riversidian sage scrub
- Seasonal wetland
- Vernal pool

- Willow riparian scrub and forest

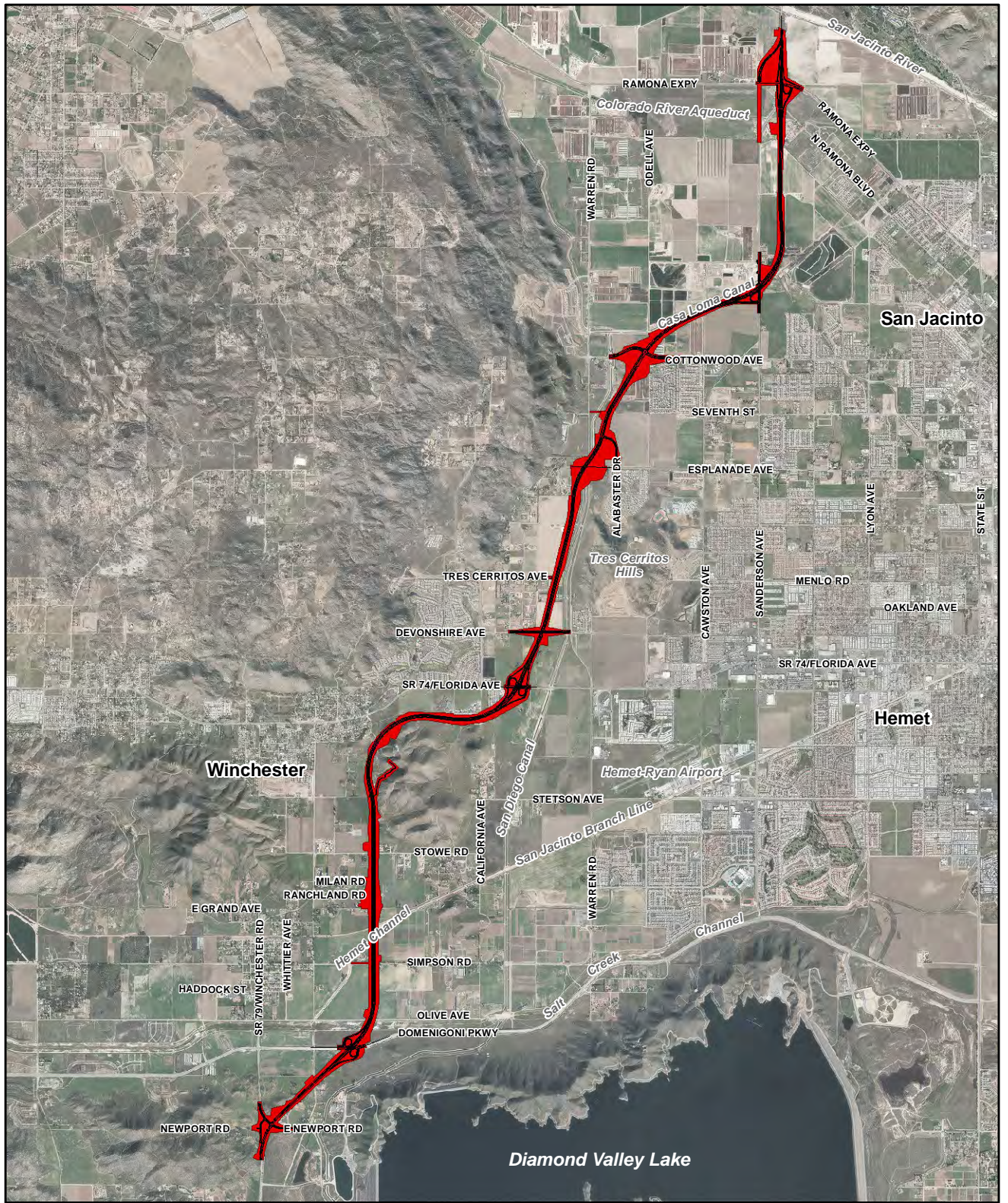
Refer to Section 3.3 .1.2 and 3.3.1.3 of the DEIR/EIS for a detailed discussion of vegetation communities.

Table 2-1. Vegetation Communities

SR 79 Vegetation Community*	Acres within the Study Area	Acres Impacted by Build Alternative 1br
Alkali Grassland**	17.2	13.3
Alkali Playa**	0.16	0.0
Cottonwood Willow Riparian Forest	1.9	1.2
Emergent Wetland	0.2	0.0
Mulefat Scrub	0.01	0.0
Riversidian Sage Scrub	83.0	52.4
Seasonal Wetland	13.3	8.6
Vernal Pool	2.8	2.0
Willow Riparian Scrub and Forest	4.6	2.4

*Note: The definitions of natural communities used for vegetation mapping differ from those used for MSHCP Riparian/Riverine Resources; therefore, the calculations shown here may differ from those shown in Table 4-2.

**Alkali habitat listed in this table is not associated with any ephemeral streams and did not occur within floodplains. As a result, these were not included as MSHCP Riverine Resources.



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LEGEND

- Project Roadway and Local Street Improvements
- Project Impact Area

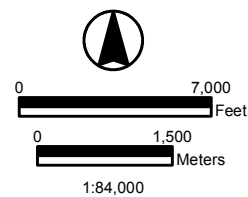


Figure 2.2-1 Build Alternative 1br Opening Day

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LEGEND

- Project Roadway and Local Street Improvements
- Project Impact Area

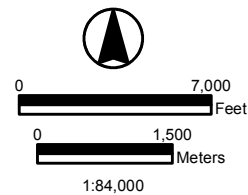


Figure 2.2-2 Build Alternative 1br 20-Year Design Horizon

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State Route 79 Realignment Project

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Chapter 3 MSHCP Consistency Analysis

As discussed previously, RCTC is a Permittee to the Western Riverside County MSHCP and is therefore required to ensure consistency with the MSHCP for any project it undertakes. The MSHCP planning analysis included evaluations of planned roadways with respect to conservation of biological resources and in the context of the MSHCP Conservation Area. The realignment of State Route 79 is included in Section 7.3.5, Planned Roads, within the Criteria Area of the MSHCP. The text below is the information provided in that section that identifies the required process for the Project to be considered a Covered Activity.

- If the Project does not impact the Criteria Area, it would be considered a Covered Activity subject to the design guidelines and Best Management Practices (BMPs) outlined for circulation element roads and would not require any further analysis.
- If the alignment would result in impacts within the Criteria Area, a technical study will be provided by the Riverside County Transportation Commission (RCTC), for review and concurrence by the wildlife agencies in narrative and graphic form identifying plant and wildlife impacts associated with the selected alignment of the SR 79 northerly segment. Also within the technical study, Project proposals to replace habitat values from Project impacts to Planning Species for Proposed Noncontiguous Habitat Blocks 6 and 7 and Existing Constrained Linkage B will be presented. An analysis in the technical study (equivalency analysis) will evaluate the replacement value of the Project proposals against the Project impacts. The Project will consider specific Project design features, including the siting and design guidelines and guidelines for construction of wildlife crossings contained in Section 7.5-2 of the MSHCP, as well as the BMPs contained in Appendix C of the MSHCP. If the alignment results in measurable impacts to the Criteria Area, the technical study will address the following categories.
 - Effects on Habitats
 - Effects on Planning Species for Proposed Noncontiguous Habitat Blocks 6 and 7 and Existing Constrained Linkage B
 - Effects on Core Areas (as identified in Figure 3.2, Schematic Cores and Linkages Map, of the MSHCP)
 - Effects on Linkages and Constrained Linkages (as identified in the Schematic Cores and Linkages Map of the MSHCP)
 - Effects on MSHCP Conservation Area configuration and management (such as increases or decreases in edge)
- RCTC will meet and confer with the wildlife agencies to discuss road alignment and design issues and subsequently submit the technical study, including the equivalency analysis, in writing

to the wildlife agencies for their review. If the wildlife agencies do not concur with the technical study, the Project will be subject to a Major Amendment. If the wildlife agencies concur, or if they fail to respond within the 60-day period, the Project will be permitted as a Covered Activity.

The equivalency analysis is being submitted upon selection of the preferred alternative and must meet specific criteria as described below in Table 3-1. This document provides the required MSHCP Consistency Analysis to maintain the Project as a Covered Activity and will address all of the criteria below.

Table 3-1. MSHCP Section 7.3.5 Planned Roads Consistency for Project

Excerpt from Section 7.3.5 of MSHCP	SR 79 Project Compliance
Determination of biological equivalency must be demonstrated and achieved within the area affected. Specifically, it must be demonstrated that the conservation/mitigation proposed to achieve biological equivalency is within Subunit 4 of the San Jacinto Area Plan (Section 3.3.13 of the MSHCP) and/or Subunit 2 of the Harvest Valley/Winchester Area Plan (Section 3.3.4 of the MSHCP).	A DBESP has been prepared for impacts to Riparian/Riverine Resources, vernal pools, CASSA plants and burrowing owl. Proposed mitigation sites included in the DBESP include land located within the referenced subunits.
<p>The analysis will address the effects of the Project on the following species.</p> <ul style="list-style-type: none"> • Vernal pool fairy shrimp (not observed) • Riverside fairy shrimp (not observed) • Burrowing owl (observed) • Mountain plover (not observed) • Loggerhead shrike (observed) • Davidson's saltscale (not observed) • Thread-leaved brodiaea (not observed) • Vernal barley (observed) • Little mouseltail – (observed – LTCV) • Spreading navarretia – (not observed) • California Orcutt grass – (not observed) • Munz's onion – (not observed) • Los Angeles pocket mouse (observed) • San Jacinto Valley crownscale (SJVC) (not observed) • Parish's brittlescale (not observed) • Coulter's goldfields (observed – no LTCV) • Wright's trichocoronis (not observed) 	<p>Section 4.1.4 addresses impacts to fairy shrimp. Section 4.3.3 addresses impacts to Burrowing Owl.</p> <p>Sections 4.2 and 4.3.1 address impacts to Narrow Endemic and Criteria Area Plants. Section 4.3.4 addresses impacts to Los Angeles Pocket Mouse. For other species listed, such as the loggerhead shrike, measures listed in Appendix C of the MSHCP would be implemented to minimize impacts as presented in Section 4.6.</p>
Parameters for analyzing effects on vernal pool/alkali playa habitats will consider the pool area, hydrology, water quality issues, and the presence of species listed in these criteria.	Sections 4.1.1 and 4.1.3 analyze effects on vernal pool and alkali playa habitats.

Table 3-1. MSHCP Section 7.3.5 Planned Roads Consistency for Project

Excerpt from Section 7.3.5 of MSHCP	SR 79 Project Compliance
Potential means for achieving equivalency may include restoration of existing habitats within the Area Plan Subunits, which may include the removal of existing uses, including land use disturbances, ditches and drainage canals, and transportation and other types of infrastructure. Recognition will be provided to RCTC for the direct benefit(s) of implementing these activities, as well as to the secondary benefit(s) that result within and adjacent to Proposed Noncontiguous Habitat Block 7.	Sections 4.1.1.3, 4.1.3.3, 4.3.1.3, and 4.3.3.3 provide DBESPs for riparian/riverine resources, vernal pools, CASSA plants, and burrowing owl. The DBESPs include restoration and preservation of habitat within Subunit 4 of the San Jacinto Area Plan and/or Subunit 2 of the Harvest Valley/ Winchester Area Plan.
Efforts to maintain and/or improve habitat conditions may include maintenance of existing conditions, natural generation or enhancement, or actual habitat creation, associated with a wide range of effort and cost. The selection of the approach and method will be determined with technical merit and negotiated with RCTC. Typical definitions for this range of potential actions are provided in Section 5.2.1 of the MSHCP and include maintenance, natural regeneration, enhancement, revegetation, restoration, and creation.	Meetings have taken place over many years with the wildlife agencies to determine appropriate measures to maintain and/or improve habitat conditions within the PIA. Section 3.3 provides a discussion on the preferred alternative 1br avoidance of impacts.
The Project will maintain hydrology to existing vernal pool/alkali playa habitat to provide for the Conservation of the species listed in these criteria by either maintaining natural hydrologic processes or designing/implementing an engineered hydrologic solution that maintains the necessary hydrologic processes.	The preferred alternative avoids impacts to a large vernal pool complex located near Stowe Road. For all other vernal pool impacts, a DBESP has been prepared as described below in Sections 4.1.1.3 and 4.1.3.3.
The Project will maintain Existing Constrained Linkage B, as identified on the Cores and Linkages Map (Section 3.2.3 of the MSHCP).	A bridge over Existing Constrained Linkage B has been incorporated into the design of the Project as described below in Section 3.2.1.
The Project will not preclude the ability to assemble Proposed Core 3 at the northern terminus of the alignment, as identified on the Cores and Linkages Map (Section 3.2.3 of the MSHCP).	The northern limits of the Project end before Proposed Core 3, and would not impact this MSHCP Core.
The Project will maintain Existing Constrained Linkage C, as identified on the Cores and Linkages Map (Section 3.2.3 of the MSHCP).	The Project would avoid Existing Constrained Linkage C as described below in Section 3.2.2.
Impacts related to the fragmentation of vernal pool/alkali playa habitat, due to the removal of surface hydrology and the inability of the Project to meet the criteria identified above, may be mitigated through the acquisition and conservation of lands that are in addition to the 61,917 hectares (153,000 acres) of Additional Reserve Lands at an appropriate ratio to support the findings of biological equivalency for the Project.	A DBESP is presented below in Sections 4.1.1.3 and 4.1.3.3 for impacts to vernal pool habitat.

3.1 Reserve Assembly

The Project crosses through two MSHCP Reserve Features: Existing Constrained Linkage B and Proposed Noncontiguous Habitat Block 7 (Figures 1.0-2 a through j). Although the Project would not cross Existing Constrained Linkage C (San Jacinto River) or Proposed Noncontiguous Habitat Block 6, these Reserve Features are included in the discussion in Section 3.2 due to their proximity to the Project ROW.

As a transportation Covered Activity, the Project is not required to set aside land to contribute to Conservation of Reserve Features; instead, the Project is to be designed to minimize and reduce impacts to the Reserve Features to ensure the viability of the features. The Project is required; however, to consider its relationship to the Reserve. Table 3-2 shows the range of impacts to the MSHCP Cores and Linkages in the PIA.

Table 3-2. MSHCP Cores and Linkages within the Project Impact Area

MSHCP Cores and Linkages	Impacts (acres)
Existing Constrained Linkage B	5.7
Existing Constrained Linkage C	0.0
Proposed Noncontiguous Habitat Block 6	0.0
Proposed Noncontiguous Habitat Block 7	60.5

Source: CH2M HILL 2014

3.2 Relationship to Reserve Assembly/Criteria Area

The Project would be located in the Harvest Valley/Winchester Area Plan (HVWAP) and the San Jacinto Valley Area Plan (SJVAP), specifically, in Subunit 2 of the HVWAP and Subunits 1 and 4 of the SJVAP. In Subunit 2 of the HVWAP, the Project would cross a portion of Proposed Noncontiguous Habitat Block 7 and Existing Constrained Linkage B (Salt Creek). In Subunits 1 and 4 of the SJVAP, the Project would cross a portion of Proposed Noncontiguous Habitat Block 7 (Figures 1.0-2 a through j).

Build Alternative 1br crosses 4 Criteria Area Cells: 2364, 3291, 3584, and 3683. The conservation goals for these Cells are summarized in Table 3-3. The locations of the cells are shown in Figures 1.0-2 a through j. The Project is a Covered Activity in the MSHCP Criteria Area and is documented and subject to the terms listed in Section 7.3.5 of the MSHCP. While impacts from Covered Activities were anticipated within Criteria Area Cells, it is important that actual Project impacts are consistent with the conservation that was estimated and that the connectivity between different Cell Groups is maintained.

Table 3-3. Criteria Cells and Proposed Conservation Goals

Cell ID	Subunit	Cell Group	USGS Section	Quarter Section	Cell Criteria
2364	1	M	08	SE	Conservation within this Cell Group will contribute to assembly of Proposed Core 3. Conservation within this Cell Group will focus on chaparral and coastal sage scrub habitat. Areas conserved within this Cell Group will be connected to chaparral and coastal sage scrub habitat proposed for conservation in Cell Groups L to the west, F to the north, O to the east, and B in the Pass Area Plan, also to the east. Conservation within this Cell Group will range from 35 to 45 percent of the Cell Group focusing in the northern portion of the Cell Group.
3291	4	N/A	06	NW	Conservation within this Cell Group will contribute to assembly of Proposed Noncontiguous Habitat Block 7. Conservation within this Cell Group will focus on grassland habitat. Conservation within this Cell Group will be approximately 5 percent of the Cell Group focusing in the western portion of the Cell Group.
3584	4	D	12	SE	Conservation within this Cell Group will contribute to assembly of Proposed Noncontiguous Habitat Block 7. Conservation within this Cell Group will focus on playas/vernal pool habitat and agricultural land. Areas conserved within this Cell Group will be connected to playas/vernal pool habitat proposed for conservation in Cell 3793 to the east, in Cells 3891 and 3892 to the south, and in Cells 3684 and 3791, both in the Harvest Valley/ Winchester Area Plan to the west. Conservation within this Cell Group will range from 70 to 80 percent of the Cell Group focusing in the central portion of the Cell Group.
3683	2	N/A	13	NW	Conservation within this Cell will focus on assembly of Proposed Noncontiguous Habitat Block 7. Conservation within this Cell will focus on playas, vernal pools, and a variety of upland habitat. Areas conserved within this Cell will be connected to wetlands proposed for conservation in Cell 3684 to the east and to uplands and wetlands proposed for conservation in Cell 3791 to the south. Conservation within this Cell will range from 65 to 75 percent focusing on the eastern portion of the Cell.

Linkages

A linkage is a connection between core areas that has adequate size, configuration, and vegetation characteristics to provide “live-in” habitat or genetic flow for identified planning species. Live-in habitat refers to areas with suitable living conditions. Areas identified as linkages in the MSHCP may provide movement habitat but not live-in habitat for some species, thereby functioning more as movement corridors. It is expected that every linkage could provide live-in habitat for at least one species.

A constrained linkage is a constricted connection that is expected to provide for movement of identified planning species between core areas where options for the connection are limited due to existing patterns of use.

3.2.1 Existing Constrained Linkage B (Salt Creek)

As stated in Section 3.2.3 of the MSHCP, Existing Constrained Linkage B is comprised of Salt Creek. This linkage provides for movement of species between the Hemet area in the east, the central region of the MSHCP Plan Area, and Canyon Lake in the west. It is constrained to the north and south by existing urban and agricultural land uses. This route, which is wide and adequately bridged by the major roads, provides access to water, food, cover, foraging areas, and breeding habitats for many species. However, the lack of cover in the channel (except for low grasses) and small amount of surface water make this linkage of limited use to most wildlife. Additionally, this linkage is surrounded by planned land uses designated by city and community development, indicating that the potential for edge effects is high. Therefore, treatment and management of edge conditions is important in maintaining functions of this linkage.

Planning species for Existing Constrained Linkage B (Salt Creek) are as follows:

- Riverside fairy shrimp
- Vernal pool fairy shrimp
- Los Angeles pocket mouse
- San Jacinto Valley crowscale
- Parish's brittlescale
- Davidson's saltscale
- Thread-leaved brodiaea
- Smooth tarplant
- Vernal barley
- Coulter's goldfields
- Little mousetail
- Spreading navarretia
- California Orcutt grass
- Wright's trichocoronis

Build Alternative 1br would cross Existing Constrained Linkage B (Salt Creek) and, therefore, must consider the construction of wildlife crossings to maintain connectivity within this linkage. Build Alternative 1br would maintain the existing linkage by creating a bridge over Olive Avenue and Salt Creek Channel with a minimum vertical clearance of 4.57 m (15 ft) and a length of 271 m (890 ft). The bridge would be split into two separate structures approximately 19 m (63 ft) apart with widths of approximately 14 to 32 m (46 to 106 ft) and 15 to 17 m (50 to 56 ft). By incorporating a bridge into the design, the Project would avoid impacts to plants and wildlife connectivity for the planning species identified for Existing Constrained Linkage B. Therefore, implementation of the Project

would not substantially impact the Conservation goals and Reserve function of Existing Constrained Linkage B.

3.2.2 Existing Constrained Linkage C (San Jacinto River)

As stated in Section 3.2.3 of the MSHCP, Existing Constrained Linkage C consists of the middle segment of the San Jacinto River, which is located in the northeastern region of the MSHCP Plan Area. This public/quasi-public linkage connects MSHCP Proposed Core 5 in the east (upper San Jacinto River area) with MSHCP Proposed Constrained Linkage 20 to the west. It is also connected to MSHCP Proposed Core 3 (Badlands/Potrero area) via MSHCP Proposed Constrained Linkage 21. Like Existing Constrained Linkage B (Salt Creek), Existing Constrained Linkage C is constrained on all sides by existing development. However, unlike Salt Creek, this constrained linkage is largely surrounded by open space and conservation land use. Existing Constrained Linkage C provides both a seasonal water source and a good regional linkage between the San Bernardino Mountains and the Potrero area. The San Jacinto River serves as a local and regional wildlife movement corridor for species that use upland alluvial and riverine habitats on a regional scale. These species include small rodents to large and meso predators such as coyotes, bobcats, and foxes. Resident small mammals such as the Los Angeles pocket mouse use the alluvial fan scrub along the terraces and levee walls in this area.

Planning species for Existing Constrained Linkage C (San Jacinto River) are as follows:

- Arroyo toad
- Los Angeles pocket mouse
- Mountain plover
- White-faced ibis
- San Jacinto Valley crowscale
- Parish's brittlescale
- Davidson's saltscale
- Thread-leaved brodiaea
- Coulter's goldfields
- Spreading navarretia

Build Alternative 1br would not cross Existing Constrained Linkage C. No construction activities would occur within this reserve feature. Therefore, implementation of the Project would not substantially impact the Conservation goals and Reserve function of Existing Constrained Linkage C.

However, Build Alternative 1br does cross Criteria Cell 2364, which encompasses a portion of Existing Constrained Linkage C. Cell 2364 is a component of Cell Group M and is described as follows:

3.2.2.1 Cell 2364

The northern portion of the Project crosses the south-central part of Cell 2364, which is a component of Cell Group M. As stated in Table 3-3 above, “Conservation within this Cell Group will contribute to assembly of Proposed Core 3. Conservation within this Cell Group will focus on chaparral and coastal sage scrub habitat. Areas conserved within this Cell Group will be connected to chaparral and coastal sage scrub habitat proposed for conservation in Cell Groups L to the west, F to the north, O to the east, and B in the Pass Area Plan, also to the east. Conservation within this Cell Group will range from 35 to 45 percent of the Cell Group focusing in the northern portion of the Cell Group.”

Although the Project crosses Cell 2364, the portion of this cell that would be impacted is dominated by ruderal, agricultural, and disturbed vegetation, and does not contain chaparral or coastal sage scrub communities. As such, conservation of the impacted area would not contribute to the assembly of Proposed Core 3, and the Project would not affect the Reserve Assembly goals of the MSHCP.

3.2.3 Proposed Noncontiguous Habitat Block 6

As stated in Section 3.2.3 of the MSHCP, Proposed Noncontiguous Habitat Block 6 consists of three vernal pools west of Hemet/San Jacinto, and east of the Lakeview Mountains. Though small in size, these parcels preserve important populations of Narrow Endemic Plant Species, including Davidson's saltscale, thread-leaved brodiaea, little mousetail, California Orcutt grass and spreading navarretia, as well as vernal pool fairy shrimp. Maintenance of vernal pool hydrology, water quality and Traver-Willow- Domino soil series is important for these species. Proposed Noncontiguous Habitat Block 6 is constrained by existing urban development and agricultural use. Approximately 220 acres of the total 330 acres occupied by the vernal pools are not affected by edge. Adjacent urban Development in the City of San Jacinto, and realignment of the SR-79 North Corridor may affect resources within this habitat block. Treatment and management of edge conditions will be necessary to ensure that habitat quality and vernal pool hydrology are maintained as planned land uses are developed and major Covered Activities are implemented along the edge of this habitat block.

Planning Species for Proposed Noncontiguous Habitat Block 6 include the following:

- vernal pool fairy shrimp
- burrowing owl
- mountain plover
- loggerhead shrike
- Davidson's saltscale
- thread-leaved brodiaea
- vernal barley
- little mousetail
- spreading navarretia
- California Orcutt grass

Build Alternative 1br would not cross Noncontiguous Habitat Block 6. No construction activities would occur within this reserve feature. Therefore, implementation of the Project would not substantially impact the Conservation goals and Reserve function of Noncontiguous Habitat Block 6.

3.2.4 Proposed Noncontiguous Habitat Block 7

As stated in Section 3.2.3 of the MSHCP, Proposed Noncontiguous Habitat Block 7 is comprised of a complex of vernal pools west of the City of Hemet. Though small in size and connected to other MSHCP lands solely via Existing Constrained Linkage B (Salt Creek), these parcels preserve important populations of Narrow Endemic Plant Species, including Davidson's saltscale, thread-leaved brodiaea, little mousetail, California Orcutt grass and spreading navarretia, as well as vernal pool fairy shrimp. Maintenance of vernal pool hydrology, water quality associated with Salt Creek and Traver-Willow-Domino soil series is important for these species. Proposed Noncontiguous Habitat Block 7 is constrained by existing urban development and agricultural use. Approximately 1,030 acres of the total 1,260 acres occupied by this habitat block are not affected by edge. Adjacent planned community development, rural, urban development in the City of Hemet, and expansion of existing facilities such as SR-74 and SR-79 may affect resources within this habitat block. Treatment and management of edge conditions will be necessary to ensure that habitat quality and vernal pool hydrology are maintained as planned land uses are developed along the edge of this habitat block.

Planning Species for Proposed Noncontiguous Habitat Block 7 include the following:

- vernal pool fairy shrimp
- burrowing owl
- mountain plover
- loggerhead shrike
- Munz's onion
- spreading navarretia
- California Orcutt grass
- San Jacinto Valley crowscale

Within Noncontiguous Habitat Block 7, the Project crosses Cells 3291, 3584, and 3683. Table 3-3 above describes the conservation goals for each. Each cell is described as follows:

3.2.4.1 Cell 3291

Part of Build Alternative 1br is located within the northwest portion of Cell 3291, which is a component of Noncontiguous Habitat Block 7. As stated in Table 3-3 above, "Conservation within this Cell Group will contribute to assembly of Proposed Noncontiguous Habitat Block 7.

Conservation within this Cell Group will focus on grassland habitat. Conservation within this Cell Group will be approximately 5 percent of the Cell Group focusing in the western portion of the Cell Group."

The Project would impact the northwest portion of this Cell that is described for conservation (RCA 2015) which may impact Reserve Assembly within this cell. Additionally, grassland habitat containing vernal pools and little mousetail populations with long term conservation value (LTCV) are located within this Cell, adjacent to the PIA, as discussed in Sections 4.1.3.2 and 4.3.1.2 below. However, indirect impacts to hydrology that may impact these resources would not occur based on the topography and observations of conditions in this location during the wet season, which indicated that site drainage is from the south to the north. No Project activity (direct impacts) would occur in the areas with vernal pools and LTCV little mousetail populations, which are located upgradient from the PIA and work areas. As a result, construction activities immediately to the north are not expected to affect the local hydrology that would contribute to grassland habitat within this Cell.

3.2.4.2 Cell 3584

Part of Build Alternative 1br crosses the northwest portion of Cell 3584, which is a component of Noncontiguous Habitat Block 7. As stated in Section Table 3-3 above, “Conservation within this Cell Group will contribute to assembly of Proposed Noncontiguous Habitat Block 7. Conservation within this Cell Group will focus on playas/vernal pool habitat and agricultural land. Areas conserved within this Cell Group will be connected to playas/vernal pool habitat proposed for conservation in Cell 3793 to the east, in Cells 3891 and 3892 to the south, and in Cells 3684 and 3791, both in the Harvest Valley/ Winchester Area Plan to the west. Conservation within this Cell Group will range from 70 to 80 percent of the Cell Group focusing in the central portion of the Cell Group.”

The Project ROW would avoid impacts to vernal pool habitat within this cell. Although vernal pool habitat exists adjacent to the Project ROW, between the San Jacinto Branch Line and SR 74/Florida Avenue (Additional Indirect Impact Study Area 1), the hydrology in these areas has been altered by the construction of roads and drainage ditches. Therefore, the Project would not contribute to adverse impacts to vernal pools and local hydrology within Cell 3584. Additionally, the Project would cross the northwest portion, and not the central portion described for conservation. Therefore, this portion of the Project would not affect the Reserve Assembly goals of the MSHCP.

3.2.4.3 Cell 3683

Part of Build Alternative 1br crosses Cell 3683, which is a component of Noncontiguous Habitat Block 7. As stated in Table 3-3 above, “Conservation within this Cell will focus on assembly of Proposed Noncontiguous Habitat Block 7. Conservation within this Cell will focus on playas, vernal pools, and a variety of upland habitat. Areas conserved within this Cell will be connected to wetlands proposed for conservation in Cell 3684 to the east and to uplands and wetlands proposed for conservation in Cell 3791 to the south. Conservation within this Cell will range from 65 to 75 percent focusing on the eastern portion of the Cell.”

The Project would cross some of the eastern portion of Cell 3683, which is described for conservation (RCA 2015), which may impact Reserve Assembly within this cell. Additionally, the Project would cross a section of Cell 3683, which impacts the western portion of an existing reserve; however, the Project would not affect connectivity to wetland habitat within Cell 3684 to the east or upland and

wetland habitat within Cell 3791 to the south. During biological studies for the Project, wetland habitat was not identified within Cell 3684. Additionally, the Project was refined to avoid cuts through the Hemet Hills, which avoided the potential to indirectly impact vernal pool habitats present within Cell 3791 to the south.

3.3 Avoidance of Impacts

As much as possible, the Project Build alternatives and design options and associated roadway segments have been selected to avoid permanent, direct, and indirect impacts to MSHCP resources. Other Build alternatives that were considered as described in Section 2.2.5 [Volume 1, page 2-26 of DEIR/DEIS] would have routed a portion of the roadway parallel to Warren Road on the east side of the San Diego Canal and west of the Hemet-Ryan Airport. This segment was eliminated from further analysis because of the large number of potential impacts to the habitat in this area. Additionally, as stated in Section 2.2.5 of Volume 1 of DEIR/DEIS, eleven segments were eliminated to avoid impacts to MSHCP resources. However, completely avoiding all MSHCP Riparian/Riverine areas, vernal pools, impacts to CASSA species, and burrowing owl habitat is not practical.

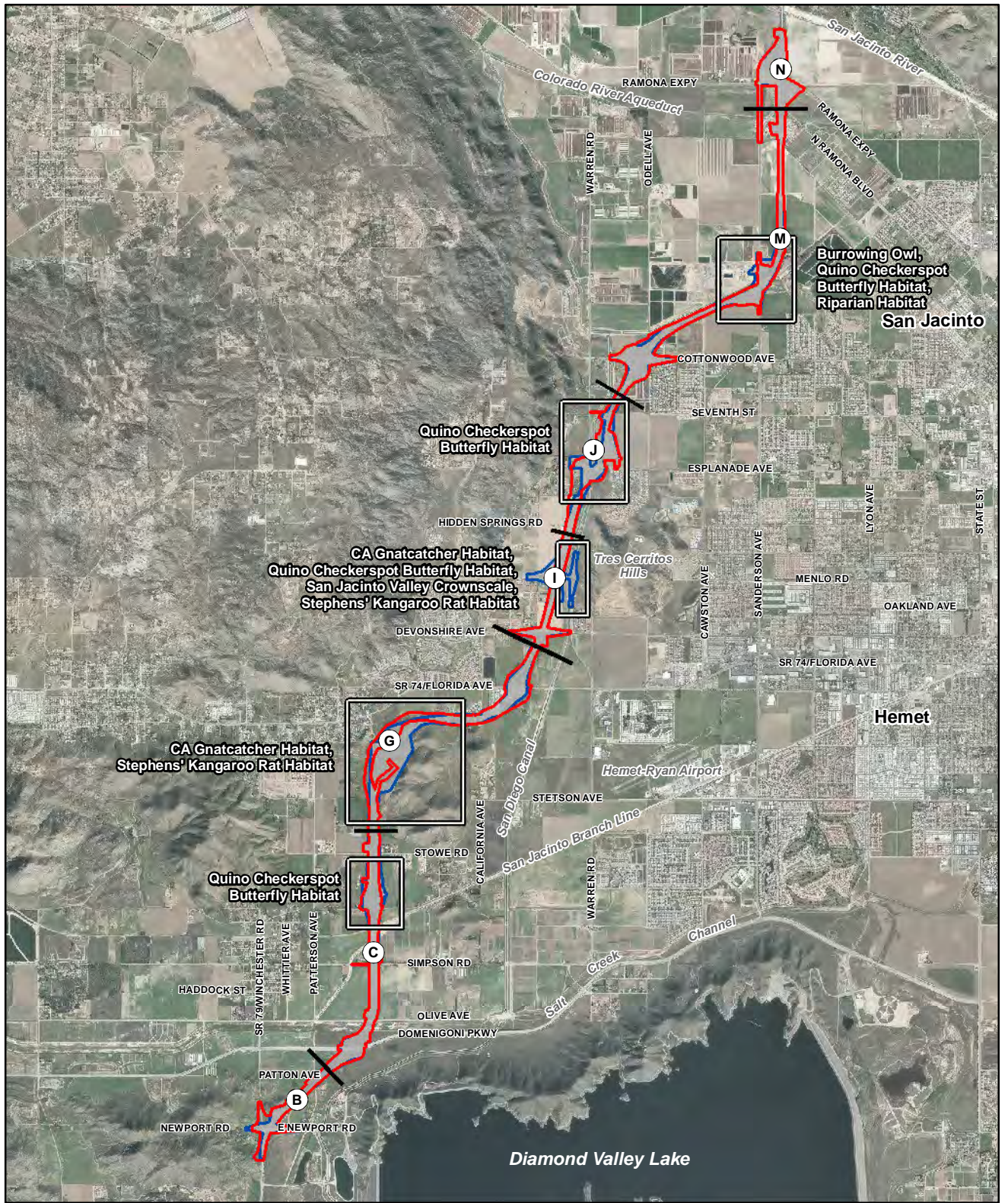
The SR 79 Realignment Project is identified as a Circulation Element Road in the County's General Plan (MSHCP Figure 7-1). Construction of the Project is necessary to improve traffic flow for local and regional north-south traffic in the San Jacinto Valley. Since the release of the Draft Environmental Impact Report/ Draft Environmental Impact Statement (RDEIR/SDEIS), RCTC continued to refine details of engineering and looked for opportunities to further reduce impacts to biological resources. As a result, Build Alternative 1b was refined, (Build Alternative 1br) to reduce impacts to San Jacinto Valley Crownscale populations, MSHCP riparian habitat, one burrowing owl pair, and Stephens' kangaroo rat, Quino checkerspot butterfly, and coastal California gnatcatcher habitat. Figures 3.3-1 a through f show specific areas within Build Alternative 1br where the reduced impacts would occur.

The following reduction in impacts would occur as a result of Build Alternative 1br:

- Reduction of direct impacts to 589 populations of SJVC (Figure 3.3-1d)
- Reduction of direct impacts to 1.4 acres of MSHCP Riparian Habitat (Figure 3.3-1d, 3.3-1f)
- Reduction of indirect impacts to 1 pair of burrowing owls (Figure 3.3-1f)
- Reduction of direct impacts to 65 acres of SKR suitable habitat (Figure 3.3-1c, 3.3-1d)
- Reduction of direct impacts to 57 acres of Quino checkerspot butterfly habitat (Figure 3.3-1b, 3.3-1d, 3.3-1f, 3.3-1f)
- Reduction of direct impacts to 66 acres coastal California gnatcatcher habitat (Figure 3.3-1c, 3.3-1d)

Additionally, the following avoidance measure will be implemented for Build Alternative 1br:

Avoidance of Sensitive Plant Populations. An Environmentally Sensitive Area (ESA) fence will be installed at the outer edge of the ROW of Roadway Segment J during construction, within Criteria Cell 3291, to avoid impacts to long-term conservation value (LTCV) little mousetail populations and a vernal pool complex located in the indirect impact area (See Sections 4.1.3.2 and 4.3.1.2 and Figure 4.3-1, sheet g). A contractor-supplied biological monitor who has knowledge about and experience with local sensitive plant species and vernal pools will determine the location of the ESA fence in the field according to the construction drawings and plans and will supervise installation of the fence. A biological monitor will also inspect the ESA fencing regularly during construction and coordinate with the Resident Engineer if fence repairs should be required.

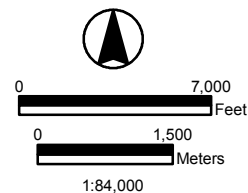


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LEGEND

- Roadway Segment
- Match Line
- Project Impact Area for 1br
- Project Impact Area for 1b
- Area of Reduction of Impacts by Resource

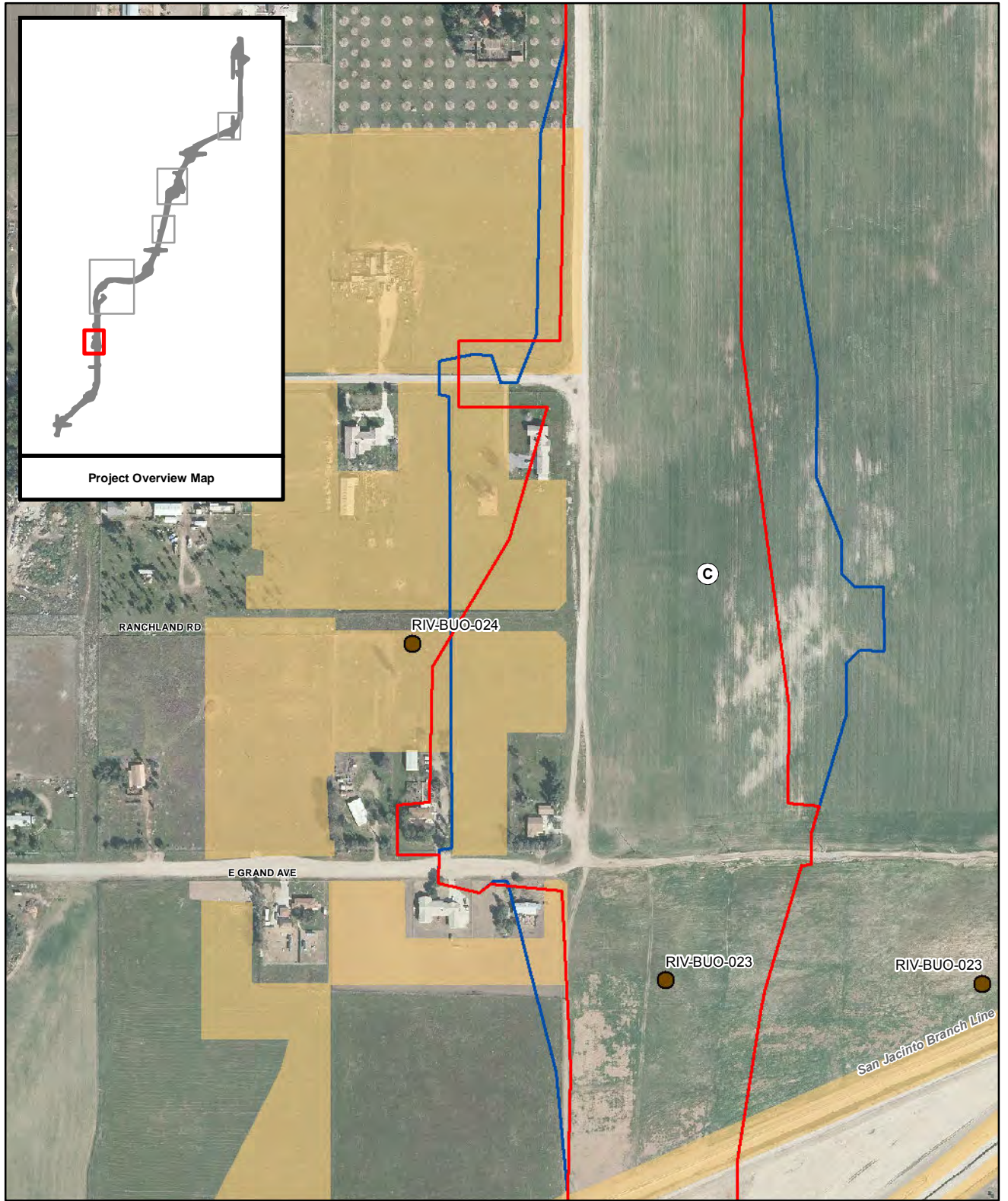


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Figure 3.3-1a

Reduction of Impacts from Build Alternative 1b to Build Alternative 1br Overview

Western Riverside County MSHCP
Consistency Document Including
Determination of a Biologically
Equivalent or Superior Preservation
State Route 99 Realignment Project



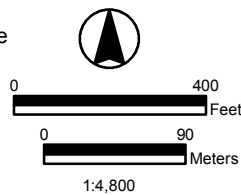
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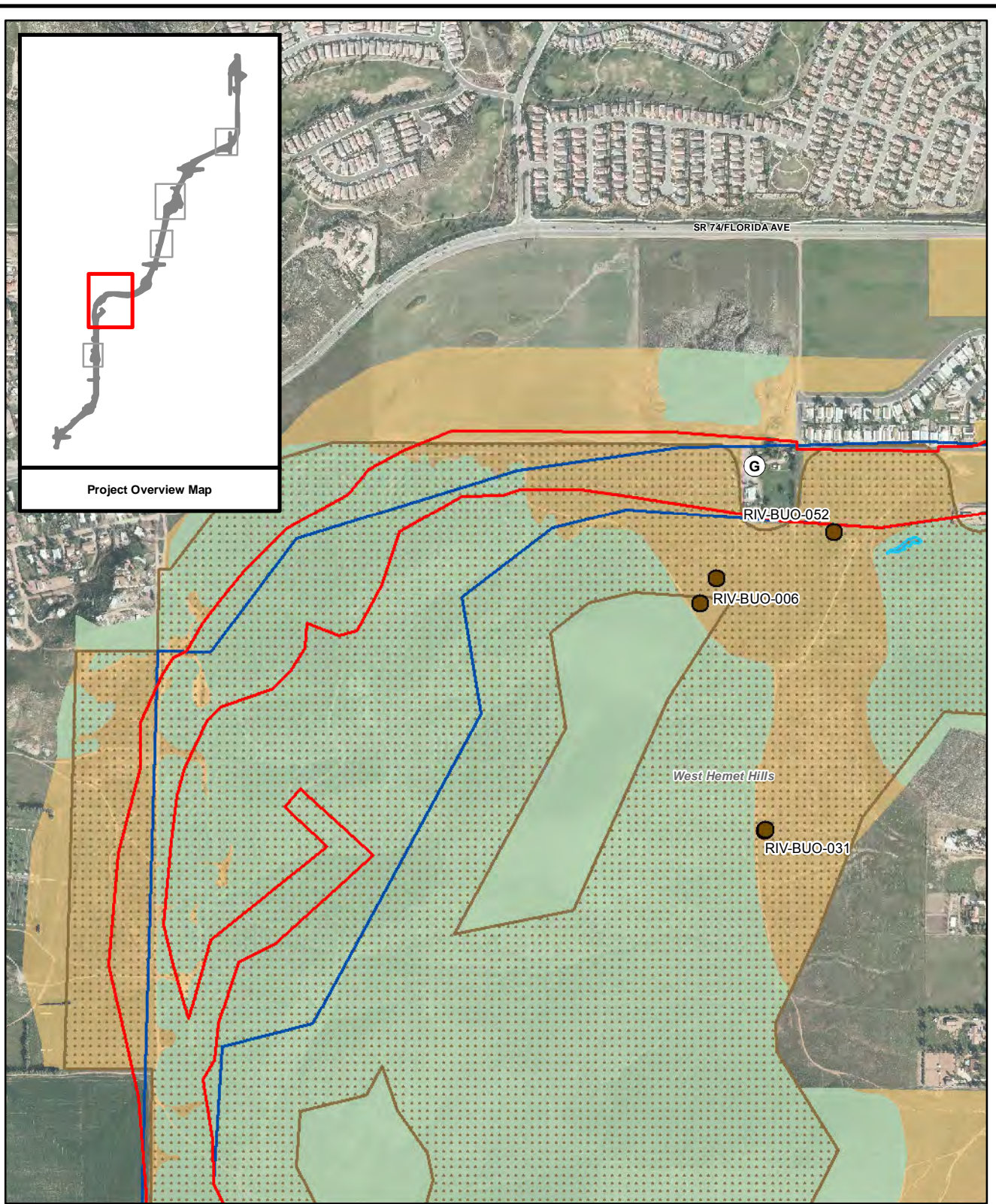
- Roadway Segment Match Line
- Project Impact Area for 1br
- Project Impact Area for 1b
- Burrowing Owl
- Riparian Habitat

- San Jacinto Valley Crownscale
- Potential Stephens' Kangaroo Rat Habitat
- Potential California Gnatcatcher Habitat
- Potential Quino Checkerspot Butterfly Habitat



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Figure 3.3-1b
Reduction of Impacts from
Build Alternative 1b to
Build Alternative 1br
Western Riverside County MSHCP
Consistency Document Including
Determination of a Biologically
Equivalent or Superior Preservation
State Route 79 Realignment Project



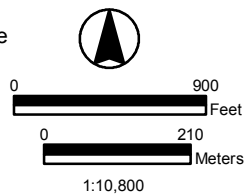
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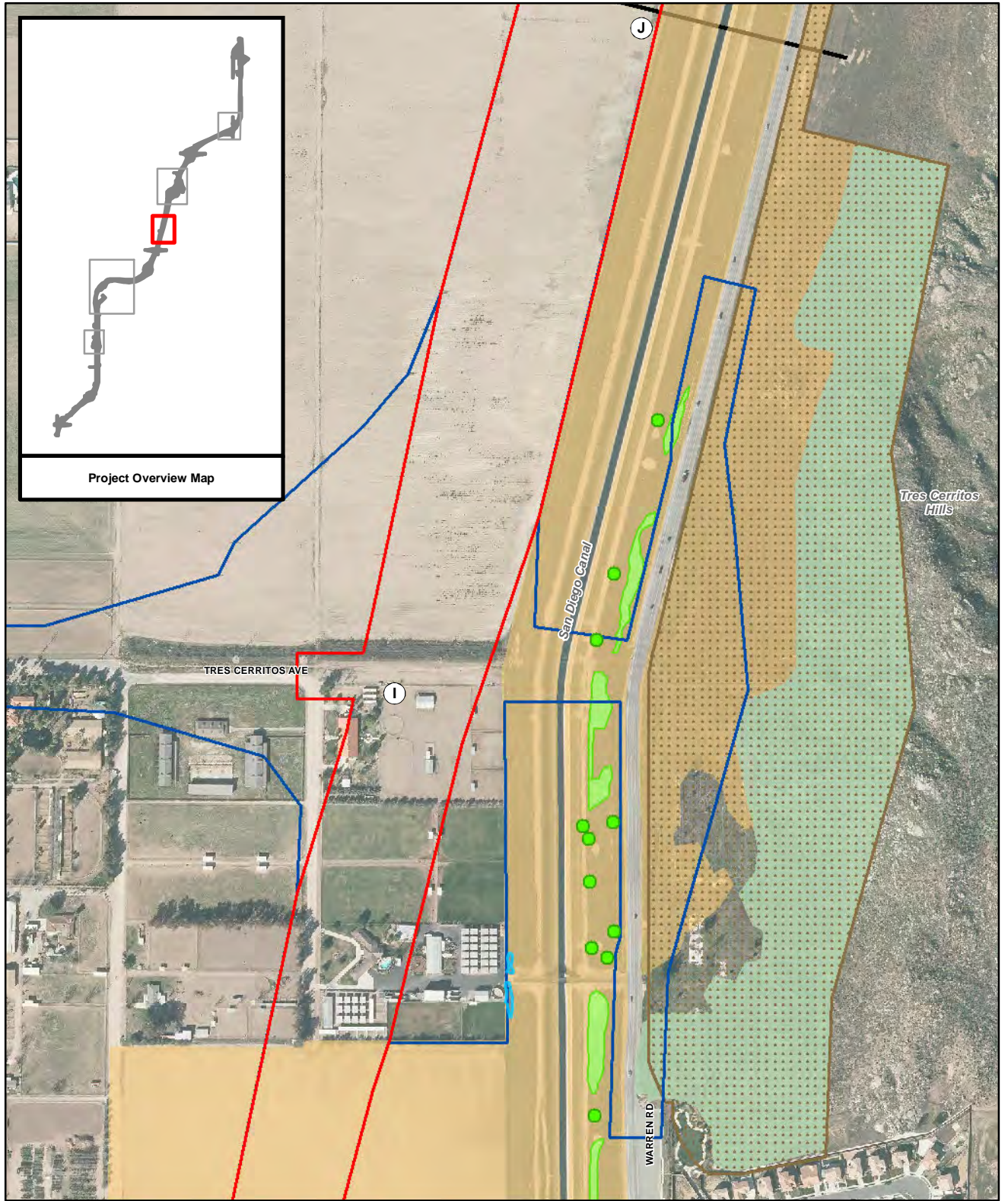
- Roadway Segment Match Line
- Project Impact Area for 1br
- Project Impact Area for 1b
- Burrowing Owl
- Riparian Habitat

- San Jacinto Valley Crownscale
- Potential Stephens' Kangaroo Rat Habitat
- Potential California Gnatcatcher Habitat
- Potential Quino Checkerspot Butterfly Habitat



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Figure 3.3-1c
Reduction of Impacts from
Build Alternative 1b to
Build Alternative 1r
 Western Riverside County MSHCP
 Consistency Document Including
 Determination of a Biologically
 Equivalent or Superior Preservation
 State Route 79 Realignment Project



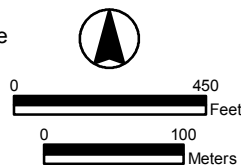
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LEGEND

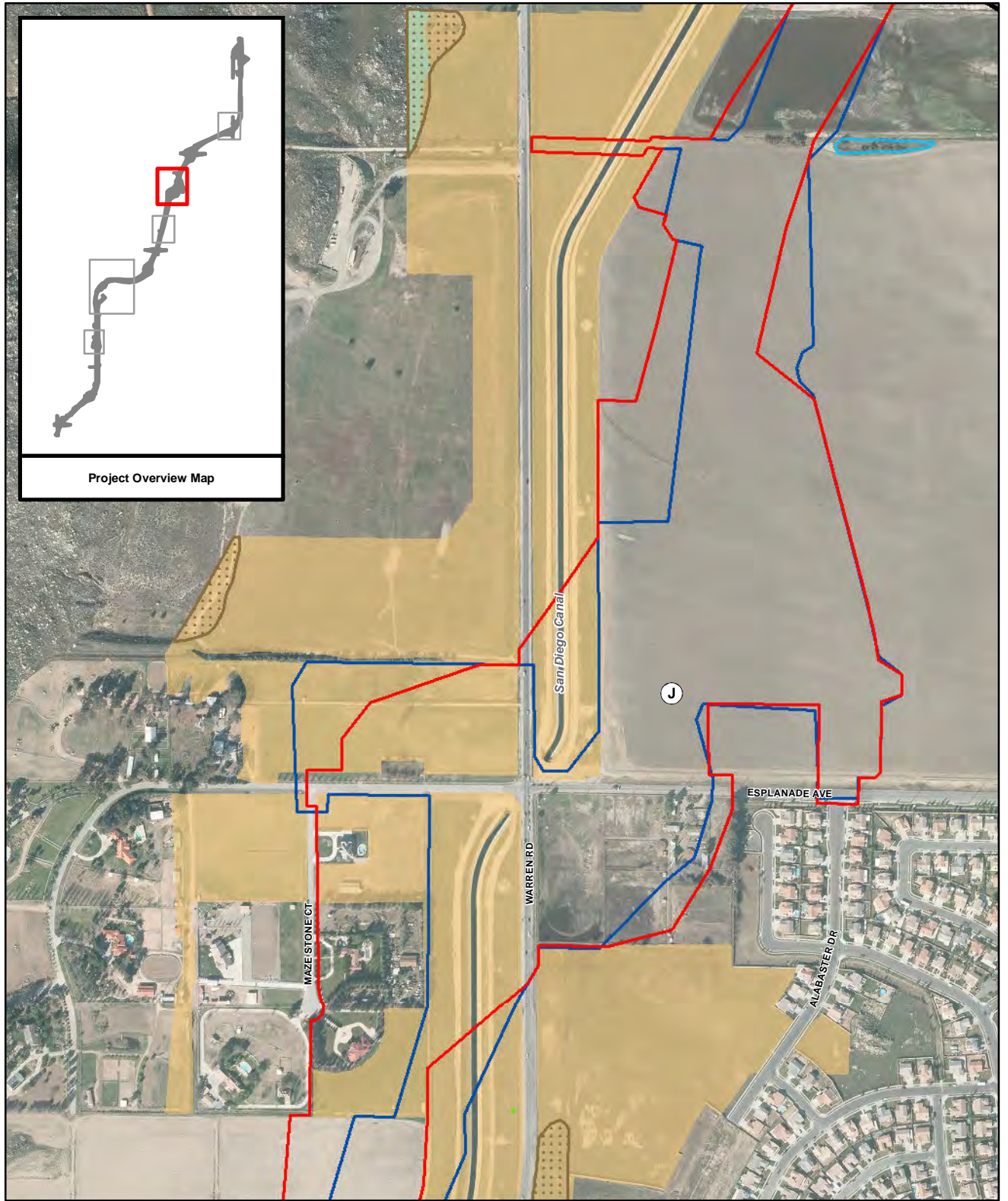
- Roadway Segment Match Line
- Project Impact Area for 1br
- Project Impact Area for 1b
- Burrowing Owl
- Riparian Habitat

- San Jacinto Valley Crownscale
- Potential Stephens' Kangaroo Rat Habitat
- Potential California Gnatcatcher Habitat
- Potential Quino Checkerspot Butterfly Habitat



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Figure 3.3-1d
Reduction of Impacts from
Build Alternative 1b to
Build Alternative 1br
Western Riverside County MSHCP
Consistency Document Including
Determination of a Biologically
Equivalent or Superior Preservation
State Route 79 Realignment Project



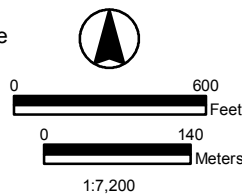
Aerial Date: February 2011, Aero-Graphics

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LEGEND

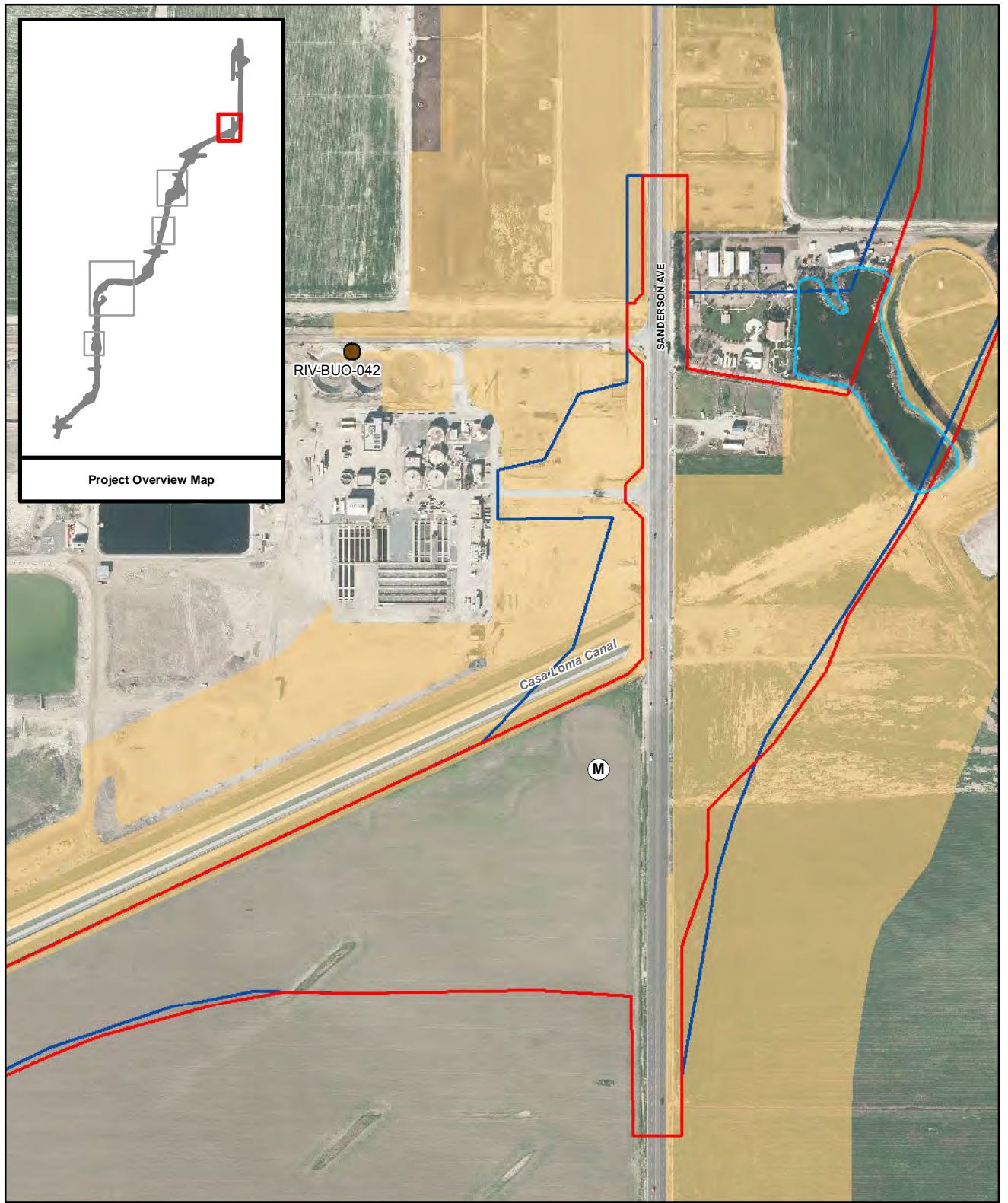
- Roadway Segment Match Line
- Project Impact Area for 1br
- Project Impact Area for 1b
- Burrowing Owl
- Riparian Habitat

- San Jacinto Valley Crownscale
- Potential Stephens' Kangaroo Rat Habitat
- Potential California Gnatcatcher Habitat
- Potential Quino Checkerspot Butterfly Habitat



**DRAFT - NOT FOR
PUBLIC CIRCULATION**

Figure 3.3-1e
Reduction of Impacts from
Build Alternative 1b to
Build Alternative 1br
 Western Riverside County MSHCP
 Consistency Document Including
 Determination of a Biologically
 Equivalent or Superior Preservation
 State Route 79 Realignment Project



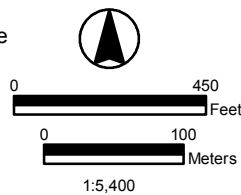
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LEGEND

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Figure 3.3-1f
Reduction of Impacts from
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Chapter 4 Compliance with Universal Plan Requirements

4.1 Section 6.1.2 Riparian/Riverine/Vernal Pool/Fairy Shrimp

This section describes the methodologies, results and Determination of Biologically Equivalent or Superior Preservation (DBESP), if applicable, for riparian/riverine, vernal pool, and fairy shrimp, as required in MSHCP Section 6.1.2.

4.1.1 Riparian/Riverine Resources

It is commonly accepted that riparian vegetation occurs along the edges of streams, rivers and lakes. In other words, riparian habitats are associated with some type of aquatic feature. However, such a broad definition is oversimplified and fails to distinguish riparian vegetation from upland communities that may also occur in proximity to water (Fischer et al., 2001). Riparian/riverine habitats, as described in MSHCP Section 6.1.2, encompass a broader range of habitats than those strictly defined by the USACE in the Corps of Engineers Wetlands Delineation Manual (USACE 1987) and various supplements and guidance. Riparian/riverine habitats are described as “habitats dominated by trees, shrubs, persistent emergents, or emergent mosses or lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year” (RCIP 2003). A more definitive definition of riparian habitat is provided by the National Research Council (2002): “*Riparian areas are transitional between terrestrial and aquatic ecosystems and are distinguished by gradients in biophysical conditions, ecological processes, and biota. They are areas through which surface and subsurface hydrology connect water bodies with their adjacent uplands. They include those portions of terrestrial ecosystems that significantly influence exchanges of energy and matter with aquatic ecosystems (i.e., a zone of influence). Riparian areas are adjacent to perennial, intermittent and ephemeral streams, lakes and estuarine- marine shorelines.*” Both the MSHCP definition and the National Research Council definition imply that proximity of vegetation to a water feature alone does not constitute riparian habitat. There must also be some degree of hydrologic influence on the vegetation by the adjacent water feature. The MSHCP describes riparian habitats as generally occurring along mid- to large order streams such as the Santa Ana River Drainage, the San Geronio River and Temecula Creek, but also notes that riparian habitat occurs along smaller drainages throughout the plan area. Riparian vegetation associations described in the MSHCP include various forest, woodland and scrub communities that consist of one or more deciduous tree species with assorted understory shrubs and herbs.

Section 6.22 of the MSHCP document also makes an important distinction that “With the exception of wetlands created for the purpose of providing wetlands habitat or resulting from human actions to create open waters or from the alteration of natural stream courses, areas demonstrating

characteristics as described above which are artificially created are not included in these definitions.” However, the RCA notes that features such as excavated roadside drainages that have hydrologic connectivity to MSHCP resources should be considered in the analysis, as such features may affect the quantity and quality of riparian and riverine resources.

To aid in assessing MSHCP Riparian/Riverine resources, other state and federal laws were referenced. On June 29, 2015 the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency published the final rule on the definition of waters of the United States (WoUS) [Federal Register, Volume 80, Number 124]. Under the final rule, ditches that convey only ephemeral or intermittent flow that are not a relocated tributary or excavated in a tributary, or drain wetlands, are by definition not jurisdictional WoUS.

Additionally, the California Department of Fish and Wildlife (CDFW) regulates activities that may “*substantially divert or obstruct the natural flow of or substantially change or use any material from the bed, channel, or bank of, any river, stream or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream or lake...*” (California Fish and Game Code Sec. 1602). If the CDFW determines that any of the above activities may substantially adversely affect an existing fish or wildlife resource, a Lake and Streambed Alteration Agreement is required that includes reasonable measures necessary to protect such resources. This requirement applies to any work undertaken in or near a river, stream, or lake that flows at least intermittently through a bed or channel. In some cases, canals, aqueducts, irrigation ditches, and other means of water conveyance may be considered “streams” if they support aquatic life, riparian vegetation, or stream dependent wildlife that would be adversely affected by alteration of the bed, bank or channel of such features.

4.1.1.1 Methodology

The locations of MSHCP riparian/riverine habitats were determined in the field and subsequently verified using a combination of the wetland delineation, and plant community data sets described in Section 2.3 as well as a review of historical and current topographic maps and aerial photographs.

Pedestrian surveys were conducted between February 2005 and May 2006 to delineate wetlands and other waters within the Study Area, which included the PIA plus a 100 foot buffer. The wetland delineation team included wetland ecologists, biologists, soil scientists, and local botanical experts. Field methods to identify wetlands followed the procedures developed in the 1987 Corps of Engineers Wetlands Delineation Manual (USACE 1987) and procedures developed in consultation with USACE Los Angeles district staff. Field data (including sample point locations, wetland boundaries, and limits of other waters) were collected using Trimble® GEO-XT hand-held Global Positioning System (GPS) units. Routine wetland delineation data sheets were completed using Integrated Wetland Delineation System (IWDS) software. This software was developed to incorporate the routine wetland delineation data sheet (from the 1987 Corps of Engineers Wetlands Delineation Manual) into the GPS device. At each sample location, observations about the vegetation, hydrology, and soils were electronically entered into the IWDS data form, which was automatically linked to the mapped

feature. Detailed information about survey methodology is provided in the SR 79 Jurisdictional Wetlands and Other Waters Delineation Report of September 2008.

The Project will result in minor impacts to two riverine features: the Hemet Channel and the Salt Creek Channel. The Hemet Channel is a constructed flood control drainage located south of Stetson Avenue that runs in a southwesterly direction across the study area and discharges into the Salt Creek Channel at the intersection of Patterson Road and Olive Avenue. The earthen channel is largely unvegetated and routinely maintained. This feature collects and conveys flood waters and surface runoff from a broad drainage area south of the Tres Cerritos Hills. The Salt Creek Channel is a constructed water conveyance channel that receives storm water runoff from the city of Hemet and surrounding areas through surface drainages and other storm water systems. Downstream of the confluence of the Salt Creek Channel and the Hemet Channel, the Salt Creek drainage continues southwest for approximately 15 miles, where it ultimately discharges into the east branch of the Railroad Canyon Reservoir (impoundment of the San Jacinto River). The channel is characterized by broad, gently sloping vegetated banks. Common species include salt grass (*Distichlis spicata*), foxtail barley (*Hordeum murinum*), white sweet clover (*Melilotus alba*), bur clover (*Medicago polymorpha*), soft chess (*Bromus hordeaceus*), and summer mustard (*Hirschfeldia incana*). The channel bottom has a network of defined braided channels that appear to support some flow during the drier months of the year. Ordinary high flows through the channel occur only in response to storm events and subsequent runoff. While the Hemet Channel is a routinely maintained earthen ditch designed to convey stormwater flows, based on 1953 topographic maps, the section of the channel within the Project area appears to be a realigned portion of Salt Creek, and was therefore considered a riverine feature. While the section of the Salt Creek Channel included in the Project area appears to have been constructed in uplands (not part of a natural creek channel) it was considered to be a significant water feature within the watershed and was therefore considered for the purposes of this analysis as a riverine feature.

During the wetland delineation surveys, a few areas associated with constructed ponds and small excavated basins characterized by vegetation typically associated with riparian habitat, were identified. Vegetation in these areas included black willow (*Salix gooddingii*), narrow-leaf willow (*Salix exigua*), cottonwood (*Populus fremontii*), sycamore (*Platanus racemosa*), mule fat (*Baccharis salicifolia*), and saltcedar (*Tamarix ramossima*). The majority of these areas were identified in the northern part of the Project area along the east and west sides of Sanderson Boulevard a mile or more south of the San Jacinto River. While all of these areas appear to be associated with sites that were subject to at least some amount of seasonal ponding, none of them are associated with riverine features. Most of these features are artificially constructed, including a few within highly disturbed areas (such as a former motor cross track), but they have nonetheless been included as riparian habitat for the purpose of this evaluation.

Constructed drainages range from excavated, routinely maintained roadside ditches to broad vegetated swales that have been designed to convey storm water runoff. Vegetative cover associated with these features is variable depending on duration of inundation, maintenance history, and land

use, among other factors. Several of the drainages are devoid of plants while others are characterized by species such as perennial pepperweed (*Lepidium latifolium*), curly dock (*Rumex crispus*), and five-hook bassia (*Bassia hyssopifolia*). Based on the definition above in Section 4.1.1, artificially created roadside ditches, swales, and other constructed drainages, are generally not considered MSHCP riparian/riverine habitat unless they exhibit hydrologic connectivity to MSHCP resources. The section of the San Jacinto River north of the Project area is confined by earthen levees designed to prevent flooding, and none of the constructed drainages in the northern part of the Project area have a direct hydrologic connection to the San Jacinto River. Additionally, the Project has been designed to maintain existing drainage patterns whenever possible, and measures will be taken to ensure that the quantity and quality of runoff discharged into MSHCP Conservation Areas will remain consistent with existing conditions

Four erosional drainages occur in the Project area on the west side of the Hemet Hills. These scour channels occur in the low saddle areas between the hilltops and have formed as a result of storm water runoff and subsequent erosion. All of the drainages appear to dissipate into sheet flow at the base of the hills with no direct connection to other waters. Hydrology in these areas appears to be highly intermittent, with flows only in response to heavy rainfall events that only last for a short duration. While the hydrologic and geomorphic processes associated with these erosional channels is similar to that of small headwater streams (Carson and Kirkby 1972), they differ in the fact that they are not tributary and are not part of a large drainage network and therefore, do not provide the same hydrological and ecological functions as “streams”. While it is recognized that in some cases these erosional features may be important for other watershed resources, such as the drainages located on the southeast side of Hemet Hills which contribute to the hydrology of an important vernal pool complex, the drainages on the west side of the hills have no similar downslope connectivity to any vernal pools, alkali playas, or seasonal wetlands on the west side of the hills. A site visit with Chris Allen from the CDFW on February 5, 2015 confirmed that these features have no hydrologic connectivity to downstream resources. These features were therefore not considered riverine resources.

Table 4-1 depicts all aquatic features mapped within Build Alternative 1br, their jurisdictional status, and rationale for MSHCP Riparian/Riverine/Vernal Pool applicability. The aquatic features listed in Table 4-1 are shown on Figures 4.1-1 a through j which show the MSHCP riparian/riverine resources within Build Alternative 1br, Figures 4.1-2 a through j which show erosional drainages and drainage ditches within Build Alternative 1br, Figures 4.1-3 a through j which show MSHCP riparian/riverine features alongside non-MSHCP erosional drainages and drainage ditches within Build Alternative 1br for comparison, Figures 4.1-4 a through j which show other non-MSHCP water features within Build Alternative 1br, and Figure 4.1-5 which shows vernal pools within Build Alternative 1br. Although vernal pools are not discussed in detail until Section 4.1.3, they are summarized in Table 4-1 which includes all aquatic features within Build Alternative 1br.

4.1.1.2 Results/Impacts to Functions and Values of Riparian/Riverine Resources

All MSHCP riparian/riverine resources that would be impacted within the PIA were included in the permanent impact calculations. The only resources included in the temporary impact calculations were Salt Creek and Hemet Channels (riverine features). Temporary impacts to Salt Creek and Hemet Channels may include installation of cofferdams, temporary support structures, and construction access routes that would be removed after a relatively short duration.

Impacts to the San Jacinto River floodplain would be minimal based on the results of the Final Location Hydraulic Study – San Jacinto River (CH2M HILL 2008b). Impacts to the floodplain are minimal within the direct footprint of the Project or are limited to slight impacts on the floodplain perimeter. Bridges and culverts will be constructed to maintain existing flows. Additional Project features within the 100-year floodplain (Utility Relocation Area 2) are not expected to impact the floodplain because construction of those features would not alter the existing floodplain.

Build Alternative 1br would permanently impact 5.27 acres of riparian vegetation and 0.004 acres of riverine vegetation located throughout the PIA, and temporarily impact approximately 3.48 acres of riverine habitat located within Salt Creek and Hemet Channels. Table 4-2 summarizes impacts to riparian and riverine resources. The only riverine resources included in the temporary impact calculations were Salt Creek and Hemet Channels. Temporary impacts to Salt Creek and Hemet Channels may last approximately 6 months and may include installation of cofferdams, temporary support structures, and construction access routes that would be removed following construction. Table 4-3 summarizes impacts to riparian/riverine habitats by vegetation type. Impacts to riparian resources from Build Alternative 1br include three constructed ponds (CP004, CP006, and CP008), two riparian wetlands (RP0001 and RP0002), and three seasonal wetlands (SW0032, SW0035 and SW0038). All of these features contained riparian habitat per the MSHCP definition.

Table 4-1. Jurisdiction of Aquatic Features Mapped within Build Alternative 1br

Feature Classification	Feature Number	Latitude	Longitude	Total Area of the Feature within the Study Area (Length if Applicable)	Area of the Feature within the Project Impact Area (PIA) (Length if Applicable)	Jurisdiction						MSHCP Riparian/Riverine/Vernal Pool Category Rationale	Parcels
						USACE	RWQCB	CDFW	MSHCP Riparian	MSHCP Riverine	MSHCP Vernal Pools		
Vernal Pool	VP0109	33.77361585400	-117.03408448300	1.97 acres	1.93 acres	1.97 acres	1.97 acres				1.97 acres	MSHCP Vernal Pool - contains vernal pool vegetation, soils, and hydrology	432170023
Vernal Pool	VP0110	33.77399033800	-117.03457847400	0.01 acres	0.01 acres	0.01 acres	0.01 acres				0.01 acres	MSHCP Vernal Pool - contains vernal pool vegetation, soils, and hydrology	432170022
Vernal Pool	VP0111	33.77406127200	-117.03481088100	0.01 acres	0.01 acres	0.01 acres	0.01 acres				0.01 acres	MSHCP Vernal Pool - contains vernal pool vegetation, soils, and hydrology	432170022
Drainage Ditch	DD0033	33.74013902800	-117.04886769200	0.05 acres (738 ft)	0.05 acres (738 ft)							Excavated drainage channel with upland vegetation; no connection to other water body or Criteria Area	465020003, 465020004, 465020005, 465020006, RW
Drainage Ditch	DD0037	33.75132657100	-117.03627185600	0.45 acres	0.01 acres							Excavated earthen roadside ditch; not considered to provide suitable habitat for riparian/riverine species covered in the MSHCP; no connection to other water body or Criteria Area	RW
Drainage Ditch	DD0038	33.75132260300	-117.03741756800	0.49 acres (1,529 ft)	0.02 acres (58 ft)							Excavated drainage with upland, ruderal vegetation; no connection to other water body or Criteria Area	455120009
Drainage Ditch	DD0042	33.76922759500	-117.03550688200	0.25 acres	0.22 acres							Excavated earthen roadside ditch; not considered to provide suitable habitat for riparian/riverine species covered in the MSHCP; no connection to other water body or Criteria Area	455110015, 455340010, 455340011, 455340012
Drainage Ditch	DD0043	33.77170041900	-117.03349606900	0.22 acres (1,360 ft)	0.12 acres (765 ft)							Excavated drainage with upland, ruderal vegetation; no connection to other water body or Criteria Area	RW
Drainage Ditch	DD0044	33.77115790900	-117.03325560600	0.07 acres (795 ft)	0.01 acres (7 ft)							Excavated earthen roadside ditch; not considered to provide suitable habitat for riparian/riverine species covered in the MSHCP; no connection to other water body or Criteria Area	448060001
Drainage Ditch	DD0045	33.77185816900	-117.03331568500	0.08 acres (1,190 ft)	0.05 acres (728 ft)							Excavated earthen roadside ditch; not considered to provide suitable habitat for riparian/riverine species covered in the MSHCP; no connection to other water body or Criteria Area	448060001, RW
Drainage Ditch	DD0046	33.77281082100	-117.02948723500	0.13 acres (1,162 ft)	0.02 acres (186 ft)							Excavated earthen roadside ditch; not considered to provide suitable habitat for riparian/riverine species covered in the MSHCP; no connection to other water body or Criteria Area	448060001, RW
Drainage Ditch	DD0047	33.77298447600	-117.03106205400	0.13 acres (1,843 ft)	0.07 acres (944 ft)							Drainage ditch excavated entirely in uplands with no defined bed and bank or remnant drainage features characterized by upland vegetation that have no hydrologic connection to other waters	RW

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						USACE	RWQCB	CDFW	MSHCP Riparian	MSHCP Riverine	MSHCP Vernal Pools		
Drainage Ditch	DD0048	33.77307746100	-117.03414450200	0.03 acres (383 ft)	0.03 acres (383 ft)							Excavated earthen roadside ditch; not considered to provide suitable habitat for riparian/riverine species covered in the MSHCP; no connection to other water body or Criteria Area	432170023
Drainage Ditch	DD0049	33.77385674400	-117.03333918800	0.10 acres (705 ft)	0.09 acres (627 ft)							Excavated earthen roadside ditch; not considered to provide suitable habitat for riparian/riverine species covered in the MSHCP; no connection to other water body or Criteria Area	432260012, RW
Drainage Ditch	DD0050	33.77375754900	-117.03350466000	0.28 acres (2,462 ft)	0.06 acres (550 ft)							Excavated earthen roadside ditch; not considered to provide suitable habitat for riparian/riverine species covered in the MSHCP; no connection to other water body or Criteria Area	RW
Drainage Ditch	DD0051	33.78732147600	-117.02767129600	0.18 acres (2,617 ft)	0.11 acres (1,669 ft)							Excavated earthen roadside ditch; not considered to provide suitable habitat for riparian/riverine species covered in the MSHCP; no connection to other water body or Criteria Area	RW
Drainage Ditch	DD0053	33.81575479300	-117.00323781500	0.02 acres (690 ft)	0.01 acres (385 ft)							Drainage ditch excavated entirely in uplands with no defined bed and bank or remnant drainage features characterized by upland vegetation that have no hydrologic connection to other waters	430130075
Drainage Ditch	DD0054	33.80210275800	-117.00293063900	0.11 acres	< 0.01 acres							Excavated earthen roadside ditch; not considered to provide suitable habitat for riparian/riverine species covered in the MSHCP; no connection to other water body or Criteria Area	436030001
Drainage Ditch	DD0055	33.79965988600	-117.00702009400	0.38 acres (5,611 ft)	0.09 acres (1,299 ft)							Excavated earthen roadside ditch; not considered to provide suitable habitat for riparian/riverine species covered in the MSHCP; no connection to other water body or Criteria Area	RW
Drainage Ditch	DD0056	33.80508228800	-117.00297058100	1.03 acres	0.63 acres							Excavated earthen roadside ditch; not considered to provide suitable habitat for riparian/riverine species covered in the MSHCP; no connection to other water body or Criteria Area	436030001, RW
Drainage Ditch	DD0057	33.81670871500	-117.00681345100	0.63 acres	0.15 acres							Excavated earthen roadside ditch; not considered to provide suitable habitat for riparian/riverine species covered in the MSHCP; no connection to other water body or Criteria Area	RW

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						USACE	RWQCB	CDFW	MSHCP Riparian	MSHCP Riverine	MSHCP Vernal Pools		
Drainage Ditch	DD0058	33.81580990100	-117.00364902500	0.10 acres (520 ft)	0.07 acres (370 ft)							Excavated earthen roadside ditch; not considered to provide suitable habitat for riparian/riverine species covered in the MSHCP; no connection to other water body or Criteria Area	430130073, 430130075
Drainage Ditch	DD0059	33.81575479300	-117.00323781500	0.02 acres (222 ft)	0.01 acres (145 ft)							Ephemeral drainage devoid of vegetation and not connected to any jurisdictional water body or Criteria Area - non MSHCP resource; no connection to other water body or Criteria Area	430130075
Drainage Ditch	DD0060	33.81695619000	-117.00507575400	0.04 acres (533 ft)	0.01 acres (98 ft)							Excavated earthen roadside ditch; not considered to provide suitable habitat for riparian/riverine species covered in the MSHCP; no connection to other water body or Criteria Area	430130073
Drainage Ditch	DD0061	33.81840288500	-117.00680820400	0.01 acres (167 ft)	< 0.01 acres (68 ft)	< 0.01 acres	< 0.01 acres	< 0.01 acres				Excavated earthen roadside ditch; not considered to provide suitable habitat for riparian/riverine species covered in the MSHCP; no connection to other water body or Criteria Area	430130043
Drainage Ditch	DD0062	33.81739376700	-117.00724642000	0.15 acres (1,307 ft)	0.05 acres (398 ft)	0.05 acres	0.05 acres	0.05 acres				Excavated earthen roadside ditch; not considered to provide suitable habitat for riparian/riverine species covered in the MSHCP; no connection to other water body or Criteria Area	430130079, RW
Drainage Ditch	DD0063	33.82037546000	-117.00326576000	0.04 acres (968 ft)	0.02 acres (361 ft)							Drainage ditch excavated entirely in uplands with no defined bed and bank or remnant drainage features characterized by upland vegetation that have no hydrologic connection to other waters	430130034, RW
Drainage Ditch	DD0064	33.82190787200	-117.00394357800	0.08 acres (465 ft)	0.08 acres (465 ft)							Excavated earthen roadside ditch; not considered to provide suitable habitat for riparian/riverine species covered in the MSHCP; no connection to other water body or Criteria Area	430130051, RW
Drainage Ditch	DD0065	33.82195284300	-117.00355179200	0.15 acres (1,066 ft)	0.15 acres (1,066 ft)							Excavated earthen roadside ditch; not considered to provide suitable habitat for riparian/riverine species covered in the MSHCP; no connection to other water body or Criteria Area	430130040, RW
Drainage Ditch	DD0066	33.82244723400	-117.00571014400	0.13 acres (1,862 ft)	0.05 acres (670 ft)							Excavated earthen roadside ditch; not considered to provide suitable habitat for riparian/riverine species covered in the MSHCP; no connection to other water body or Criteria Area	430130076, 430130077, RW

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						USACE	RWQCB	CDFW	MSHCP Riparian	MSHCP Riverine	MSHCP Vernal Pools		
Drainage Ditch	DD0067	33.82312385400	-117.00182604100	0.25 acres (1,091 ft)	0.24 acres (1,029 ft)							Drainage ditch excavated entirely in uplands with no defined bed and bank or remnant drainage features characterized by upland vegetation that have no hydrologic connection to other waters	RW
Drainage Ditch	DD0068	33.82337410900	-117.00396315300	0.04 acres	0.04 acres							Drainage ditch excavated entirely in uplands with no defined bed and bank or remnant drainage features characterized by upland vegetation that have no hydrologic connection to other waters	430130052, RW
Drainage Ditch	DD0069	33.82762342400	-117.00398679400	2.09 acres	1.96 acres							Excavated earthen roadside ditch; not considered to provide suitable habitat for riparian/riverine species covered in the MSHCP; no connection to other water body or Criteria Area	430120012, RW
Erosional Drainage	ED0007	33.73188504400	-117.06540895600	0.06 acres (812 ft)	0.02 acres (319 ft)							Erosional feature located in upland area with no connection to Criteria Area; water dissipates into sheet flow	465050017
Erosional Drainage	ED0008	33.73308088900	-117.06431871000	0.10 acres (1,469 ft)	0.03 acres (398 ft)							Erosional feature located in upland area with no connection to Criteria Area; water dissipates into sheet flow	465050017, 465050018
Erosional Drainage	ED0012	33.73511682000	-117.06711652500	0.06 acres (902 ft)	0.02 acres (254 ft)							Erosional feature located in upland area with no connection to Criteria Area; water dissipates into sheet flow	465050019
Erosional Drainage	ED0017	33.73557074900	-117.06686206200	0.03 acres (434 ft)	0.02 acres (338 ft)							Erosional feature located in upland area with no connection to Criteria Area; water dissipates into sheet flow	465050019
Constructed Pond	CP003	33.79471230600	-117.01023662500	0.34 acres	0.29 acres		0.29 acres	0.29 acres				Man-made basin devoid of vegetation - did not contain riparian vegetation or connection to Criteria Area	432130001, 432130002
Constructed Pond	CP004	33.79927066700	-117.00443279800	3.35 acres	1.62 acres		1.62 acres	1.62 acres	1.62 acres			Constructed pond containing riparian habitat	436170016
Constructed Pond	CP006	33.81729232200	-117.00394963000	1.72 acres	1.35 acres	1.35 acres	1.35 acres	1.35 acres	1.35 acres			Constructed pond containing riparian habitat	430130073
Constructed Pond	CP008	33.81817379600	-117.00466511400	0.26 acres	0.25 acres		0.25 acres	0.25 acres	0.25 acres			Constructed pond containing riparian habitat	430130073
Constructed Pond	CP0010	33.82447925200	-117.00305899200	0.64 acres	0.64 acres							Man-made basin devoid of vegetation - did not contain riparian vegetation or connection to Criteria Area	430120013, RW
Riparian	RP0001	33.80182185700	-117.00291782900	0.52 acres	0.04 acres	0.04 acres	0.04 acres	0.04 acres	0.04 acres			MSHCP Riparian feature - riparian wetland containing dense willows at time of delineation	436030001, 436170001
Riparian	RP0002	33.81856194600	-117.00709762500	2.72 acres	1.56 acres	1.56 acres	1.56 acres	1.56 acres	1.56 acres			MSHCP Riparian feature - riparian wetland containing black willow and perennial pepperweed at the time of the delineation	430130043, 430130044, 430130079

Table 4-1. Jurisdiction of Aquatic Features Mapped within Build Alternative 1br

Feature Classification	Feature Number	Latitude	Longitude	Total Area of the Feature within the Study Area (Length if Applicable)	Area of the Feature within the Project Impact Area (PIA) (Length if Applicable)	Jurisdiction						MSHCP Riparian/Riverine/Vernal Pool Category Rationale	Parcels
						USACE	RWQCB	CDFW	MSHCP Riparian	MSHCP Riverine	MSHCP Vernal Pools		
Hemet Channel		33.71061854600	-117.06687354700	16.82 acres	0.72 acres ^a	0.72 acres ^a	0.72 acres ^a	0.72 acres ^a		0.72 acres ^a		MSHCP Riverine Feature - connected to Salt Creek Channel	463090012, 465150019
Salt Creek Channel		33.69923872600	-117.06755447800	8.42 acres	2.76 acres ^b	2.76 acres ^b	2.76 acres ^b	2.76 acres ^b		2.76 acres ^b		MSHCP Riverine Resource - Existing Constrained Linkage B	465180035, 465200022
Seasonal Wetland	SW0032	33.77316517300	-117.03495727300	0.17 acres	0.17 acres	0.17 acres	0.17 acres		0.17 acres			Small constructed pond overgrown with grasses and saltcedar; considered MSHCP Riparian/Riverine habitat	432170023
Seasonal Wetland	SW0033	33.78719078700	-117.02989967100	0.51 acres	0.04 acres	0.04 acres	0.04 acres					Not an MSHCP vernal pool - associated with an ephemeral drainage; lacks vernal pool vegetation and other vernal pool characteristics that would qualify this seasonal wetland as an MSHCP vernal pool; conveys stormwater and does not provide habitat for vernal pool species	432180003, RW
Seasonal Wetland	SW0035	33.81768227400	-117.00514001800	0.14 acres	0.14 acres	0.14 acres	0.14 acres		0.14 acres			Shallow constructed basin devoid of herbaceous vegetation at the time of the delineation, but willows around the edges - considered MSHCP Riparian/Riverine Habitat	430130073
Seasonal Wetland	SW0036	33.82341149500	-117.00658051400	0.05 acres	0.05 acres	0.05 acres	0.05 acres					Not an MSHCP vernal pool - associated with an ephemeral roadside swale; lacks vernal pool vegetation and other vernal pool characteristics	RW
Seasonal Wetland	SW0037	33.82341780500	-117.00522586800	0.39 acres	0.39 acres	0.39 acres	0.39 acres					Depressional area along roadside drainage swale; appears to be routinely mowed; not considered to provide MSHCP vernal pool or Riparian/Riverine habitat	RW
Seasonal Wetland	SW0038	33.82963336800	-117.00391255200	0.14 acres	0.14 acres	0.14 acres	0.14 acres		0.14 acres			MSHCP Riparian/Riverine; Seasonal wetland with open water, saltgrass and American bulrush	430120012, RW
Agricultural Settling Basin	ASB 1	33.78382918400	-117.02793932800	59.82 acres	21.34 acres							Agricultural waste settling pond associated with commercial dairy farm lacking any riparian/wetland vegetation or connection to Criteria Areas	432180002, 432180004
Agricultural Settling Basin	ASB 2	33.79115151600	-117.02071420700	42.75 acres	7.39 acres							Agricultural waste settling pond associated with commercial dairy farm lacking any riparian/wetland vegetation or connection to Criteria Areas	432120001, 431120003
Agricultural Settling Basin	ASB 3	33.79062087600	-117.02296608100	3.57 acres	3.55 acres							Agricultural waste settling pond associated with commercial dairy farm lacking any riparian/wetland vegetation or connection to Criteria Areas	432120004, 432120013
Agricultural Settling Basin	ASB 4	33.79195975400	-117.01925398100	1.11 acres	1.11 acres							Agricultural waste settling pond associated with commercial dairy farm lacking any riparian/wetland vegetation or connection to Criteria Areas	432120001, 432120013

Table 4-1. Jurisdiction of Aquatic Features Mapped within Build Alternative 1br

Feature Classification	Feature Number	Latitude	Longitude	Total Area of the Feature within the Study Area (Length if Applicable)	Area of the Feature within the Project Impact Area (PIA) (Length if Applicable)	Jurisdiction						MSHCP Riparian/Riverine/Vernal Pool Category Rationale	Parcels
						USACE	RWQCB	CDFW	MSHCP Riparian	MSHCP Riverine	MSHCP Vernal Pools		
Agricultural Settling Basin	ASB 5	33.79313969100	-117.01635359100	1.36 acres	1.36 acres							Agricultural waste settling pond associated with commercial dairy farm lacking any riparian/wetland vegetation or connection to Criteria Areas	432120001
Agricultural Seasonal Wetland	AW0019	33.82049451000	-117.00405415200	0.34 acres	0.34 acres	0.34 acres	0.34 acres					Associated with ongoing farming activities; does not support vernal pool species and not connected to Criteria Areas	430130034
Agricultural Seasonal Wetland	AW0021	33.82624428100	-117.00505540600	8.82 acres	8.81 acres	8.81 acres	8.81 acres					Associated with ongoing farming activities; does not support vernal pool species and not connected to Criteria Areas	430120012
Agricultural Seasonal Wetland	AW0022	33.83102494400	-117.00468459600	0.27 acres	0.27 acres	0.27 acres	0.27 acres					Associated with ongoing farming activities; does not support vernal pool species and not connected to Criteria Areas	430110015, 430120012
Other Ponding	OP0001	33.68290398900	-117.08368943900	0.14 acres	0.11 acres							Unvegetated ponded area in dirt roadway; not considered to provide vernal pool or wetland habitat	466060038
Other Ponding	OP0005	33.71068956100	-117.06714980300	0.08 acres	0.08 acres							Unvegetated ponded area in dirt roadway; not considered to provide vernal pool or wetland habitat	465150019
Other Ponding	OP0006	33.71131248500	-117.06644641900	0.05 acres	0.05 acres							Unvegetated ponded area in dirt roadway; not considered to provide vernal pool or wetland habitat	465150019
Other Ponding	OP0010	33.71461787700	-117.06727903700	0.01 acres	0.01 acres							Unvegetated ponded area in dirt roadway; not considered to provide vernal pool or wetland habitat	465150015, 465270001
Other Ponding	OP0012	33.71478065900	-117.06763542400	0.07 acres	0.07 acres							Unvegetated ponded area in dirt roadway; not considered to provide vernal pool or wetland habitat	465270001, RW
Other Ponding	OP0013	33.71517737000	-117.06756731600	0.01 acres	0.01 acres							Unvegetated ponded area in dirt roadway; not considered to provide vernal pool or wetland habitat	465270001, RW
Other Ponding	OP0014	33.71731950400	-117.06749136200	< 0.01 acres	< 0.01 acres							Unvegetated ponded area in dirt roadway; not considered to provide vernal pool or wetland habitat	465270001
Other Ponding	OP0015	33.71746185400	-117.06748960200	< 0.01 acres	< 0.01 acres							Unvegetated ponded area in dirt roadway; not considered to provide vernal pool or wetland habitat	465270001
Other Ponding	OP0026	33.73622099200	-117.06736060200	0.05 acres	0.04 acres							Unvegetated ponded area in dirt roadway; not considered to provide vernal pool or wetland habitat	465050019
Seasonal Swale	SS0001	33.82339347200	-117.00621850000	0.02 acres (161 ft)	0.02 acres (161 ft)		0.02 acres					Not an MSHCP resource - Routinely maintained roadside swale with ruderal vegetation and no connectivity	RW

Table 4-1. Jurisdiction of Aquatic Features Mapped within Build Alternative 1br

Feature Classification	Feature Number	Latitude	Longitude	Total Area of the Feature within the Study Area (Length if Applicable)	Area of the Feature within the Project Impact Area (PIA) (Length if Applicable)	Jurisdiction						MSHCP Riparian/Riverine/Vernal Pool Category Rationale	Parcels
						USACE	RWQCB	CDFW	MSHCP Riparian	MSHCP Riverine	MSHCP Vernal Pools		
Storm Water Retention Basin		33.80063792500	-117.00334917000	2.54 acres	0.15 acres							Not an MSHCP Resource - used for maintaining and cleaning stormwater - lacked riparian vegetation at the time of the delineation and not connected to any Criteria Area	436170016
Storm Water Retention Basin		33.77278718200	-117.02947407800	2.41 acres	< 0.01 acres							Not an MSHCP Resource - used for maintaining and cleaning stormwater - lacked riparian vegetation at the time of the delineation and not connected to any Criteria Area	RW
Total						18.82 acres	21.00 acres	8.64 acres	5.27 acres	3.48 acres	1.99 acres		

^a All impacts to Hemet Channel would be temporary, as the columns will be placed outside of the jurisdictional limits. No permanent impacts to Hemet Channel would occur.

^b This area represents the total area of the feature, which could be temporarily impacted during construction. Permanent impacts within Salt Creek Channel include the placement of bridge columns and total 0.004 acres.

NOTES:
RW = Right-of-way

The U.S. Army Corps of Engineers (USACE) issued a jurisdictional determination based on the *Final Jurisdictional Wetlands and Other Waters Delineation Report* (September 2008). .The table includes jurisdictional wetlands and water that were included in that determination with the exception of ephemeral ditches excavated in uplands that are by rule (Federal Registrar Vol. 80 No.124, June 29, 2015) not waters of the U.S.

Jurisdiction of aquatic resources regulated by the California Department of Fish and Wildlife and the Regional Water Quality Control Board have not yet been determined for this project.

Permanent impacts to riverine resources would occur as a result of bridge pilings within Salt Creek Channel. Temporary impacts to riverine resources would occur during construction of the bridges over Salt Creek and Hemet Channels which may last approximately 6 months. Refer to Figures 4.1-1 a through j, MSHCP Riparian/Riverine Features within Build Alternative 1br.

Table 4-2. Project Impacts to MSHCP Riparian and Riverine Areas

Resource	Permanent Impacts (acres)	Temporary Impacts (acres)	Total Impacts (acres)
Riparian	5.27	0	5.27
Riverine	0.004	3.48	3.48
Total	5.27	3.48	8.75

Table 4-3. Riparian and Riverine Impacts by Vegetation Community

Vegetation	Permanent (acres)	Temporary (acres)	Grand Total (acres)
Riparian Wetlands	1.60	0	1.60
Constructed Pond Riparian	3.22	0	3.22
Seasonal Wetland	0.45	0	0.45
Salt Creek Channel (Riverine)	0.004	2.76	2.76
Hemet Channel (Riverine)	0	0.72	0.72
Total	5.27	3.48	8.75

The following discussion outlines the functions and values outlined in Section 6.1.2 for the MSHCP riparian habitat communities mapped throughout Build Alternative 1br.

Riparian Habitat

Hydrologic Regime

The Project is located in the San Jacinto Valley part of the Perris Valley and Hills Ecological Subregion of California (Miles and Goudey 1997). This region includes the hills and valleys between the San Jacinto and Elsinore Fault zones and is characterized by moderately steep hills and broad alluvial valleys. The San Jacinto Valley is bounded to the northeast by the San Jacinto Mountains and to the west by the Lakeview Mountains. The Southern California inland valley climate is semi-arid and is characterized by hot summers and dry winters. Summer temperatures generally average 79.8 degrees Fahrenheit (°F), and winters average 52.3°F. Average annual precipitation in the Project area is 28.4 centimeters (cm) (11.2 inches), based on long-term records from three rain-gauging stations located in Lakeview, Moreno Valley, and Winchester (EMWD 2004). Most of the Project

would be located in the San Jacinto Watershed, with less than 1.6 km (1 mi) of the Project within the San Diego Watershed. Most precipitation in the San Jacinto River Watershed occurs between November and March, usually as rain, but with some snow at higher elevations. Heavy winter and early spring rains can cause flooding, particularly in wet years. Low and very low (or nonexistent) flows typically follow in the dry summer season. Infrequent summer thunderstorms, however, have been known to produce short-duration rainfall of more than 2 inches per hour (Hemet 1984). These storms can cause torrential floods in local streams.

All of the riparian habitat identified within the PIA is associated with relatively fragmented constructed depression features rather than linear riverine features. The hydrology of all but one these areas appears to be seasonal, with various durations of surface inundation or saturated soils during the winter and early spring months, and dry throughout the summer.

Two riparian wetlands (RP0001 and RP0002) were identified in the PIA during the wetland delineation survey (Figure 4.1-1, sheet i). Riparian wetland RP001 includes a narrow band of black willow along with a cottonwood tree and a few mule fat shrubs and some giant reed (*Arundo donax*) growing along the west side of a shallow agricultural pond approximately 2 miles south of the San Jacinto River. Surrounding land use is primarily agriculture, the San Jacinto Reservoir and constructed stormwater retention basins. No surface water was evident in this area at the time of the survey either in the nearby pond or in the riparian area.

Riparian wetland RP0002 is located on the west side of Sanderson Boulevard approximately a mile south of the San Jacinto River (Figure 4.1-1, sheet j). Surrounding land use includes predominately agricultural fields and vacant, highly disturbed lands associated with a former motorcross track. The San Diego Aqueduct is located immediately north of this patch of riparian vegetation and a narrow earthen ditch is located along the edge of the farm field to the south. At the time of the wetland delineation survey, vegetation in this area was characterized by black willow with a dense understory of perennial pepperweed. No surface water was present in this area at the time of the survey.

Riparian vegetation including black willow trees, cottonwood and salt cedar was also associated with the three constructed ponds (CP004, CP006, and CP008) in the PIA. During the wetland delineation surveys, these areas were all seasonally inundated with over a foot of water and ranged from being seasonally inundated or semi-perennial as a result of ponding within the excavated basins. All three constructed ponds are located on the east side of Sanderson Boulevard approximately one mile south of the San Jacinto River (Figure 4.1-1, sheets i and j). Surrounding land use includes a disturbed vacant lot that was formerly used as a motorcross track, agricultural lands and some type of industrial/trucking storage yard.

The largest of the three constructed ponds (CP004) appears to have been built sometime after 1985 based on reviews of aerial photographs of the site. At the time of the wetland delineation survey this shallow pond was surrounded by mature trees including black willow and cottonwood with a small amount of cattail also present around the edges of the pond. The two smaller basins in this area

appear to have been excavated sometime after 1996 based on a review of aerial photographs. Vegetation associated with these basins includes black willow, salt cedar and perennial pepperweed.

The amount and timing of seasonal rainfall is an important factor determining the hydrology of seasonal wetlands. Seasonal wetlands (SW0032, SW0035 and SW0038) were observed in low areas along the edges or in the corners of fields and pastures where overland flow likely contributes to the basin hydrology (Figure 4.1-1, sheets g, i, and j). Water depth in the seasonal wetlands generally ranged from 5 to 40 cm (2 to 16 inches). These seasonal wetland areas within the PIA contained riparian species such as willows and saltcedar, and exhibited normal seasonal patterns of precipitation.

Flood Storage and Flood Flow Modification

This function relates to the ability of a stream to take in surface water and attenuate peak flow during major storm events and peak domestic flows and thereby prevent or reduce flooding. This is dependent on the size of the stream, the amount of water it can hold, and the location in the watershed. For instance, larger streams that have a greater capacity to receive waters have a greater ability to reduce flooding. In addition, areas high in the watershed may have more ability to reduce flooding in downstream areas, but areas lower in the watershed may have greater benefits to a specific area. Vegetation, shape, and the configuration of the stream channel may also affect flood storage by dissipating the energy of flows during flood events (Dudek 2013).

Five out of eight of the riparian areas within the PIA of Build Alternative 1br are located within the 100-year floodplain of the San Jacinto River (RP0002, CP006, CP008, SW0035, and SW0038 [Figure 4.1-1, sheet j]); however, most of the features are located at least one mile to the south of the river channel and would not have any significant effect on flood flows within or immediately adjacent to the channel. Additionally, these areas consist of fragmented, relatively small patches of trees that are mostly associated with constructed depressions that are seasonally inundated. During high rainfall events the relatively shallow basins are likely to be filled to capacity and provide minimal benefit in terms of flood water retention.

Sediment Trapping and Transport

Sediment removal from flowing water keeps sediments from migrating downstream. This is accomplished through the natural process of sediment retention and entrapment. This function is dependent on the sediment load being delivered by runoff into the watershed. The vegetation, shape, and the configuration of a wetland or stream affect sediment retention if water is detained for long durations, as would be the case with dense vegetation, a bowl-shaped watershed, or slow-moving water. This function is demonstrated when the turbidity of the incoming water is greater than that of the outgoing water (Dudek, 2013).

As previously mentioned the riparian habitat within the PIA consists of relatively small, isolated basins and constructed ponds with patches of trees and shrubs located one to two miles south of the

San Jacinto River. These areas have no direct hydrologic connection to the river and are not likely to provide any significant functions in terms of sediment trapping or transport within the watershed.

Nutrient Retention and Transformation

Nutrient cycling consists of two variables: 1) uptake of nutrients by plants and 2) detritus turnover, in which nutrients are released for uptake by plants downstream. Wetland systems in general are much more productive in nutrient cycling than upland habitats. The regular availability of water associated with the wetland or stream may cause growth of plants (nutrient uptake) and associated detritivores, and generates nutrients that can be used by a variety of aquatic and terrestrial wildlife downstream (Dudek, 2013).

Riparian habitat in the PIA consists primarily of riparian scrub and riparian trees associated with constructed shallow basins and ponds. As noted in the previous sections, these areas occur in relatively small fragmented patches between one and two miles south of the San Jacinto River. While many of the areas are associated with at least some seasonal ponding there is likely to be some nutrient cycling due to a variety of aerobic and anaerobic processes as well as nutrient uptake by plants and production of organic matter. However, as these areas have no direct hydrologic connection with the San Jacinto River, they are unlikely to provide a significant source of nutrients to downstream aquatic and terrestrial wildlife.

Toxicant Trapping

The major processes by which wetlands and streams remove nutrients and toxicants are as follows: (1) by trapping sediments rich in nutrients and toxicants, (2) by absorption to soils high in clay content or organic matter, and (3) through nitrification and denitrification in alternating oxic and anoxic conditions. Removal of nutrients and toxicants is closely tied to the processes that provide for sediment removal (Dudek, 2013).

Riparian habitat in the PIA consists primarily of riparian scrub and riparian trees associated with constructed shallow basins and ponds. As noted in the previous sections, these areas occur in relatively small fragmented patches between one and two miles south of the San Jacinto River. While many of the areas are associated with at least some seasonal ponding and may trap certain toxicants resulting from localized runoff, given the distance from the river and absence of a direct hydrologic connection, they are unlikely to function as a significant resource in toxicant trapping.

Public Use

This is a measure of the probability that a wetland or stream will be used by the public because of its natural features, economic value, official status, and/or location. This includes it being utilized by the public for recreational uses, such as boating, fishing, birding, walking, and other passive recreational activities. In addition, a wetland or stream that is utilized as an outdoor classroom, is a location for scientific study, or is near a nature center would have a higher social significance and standing (Dudek, 2013).

The riparian habitat within the PIA provides little, if any, recreational opportunities or other public use.

Wildlife Habitat

General habitat suitability is the ability of a wetland or stream to provide habitat for a wide range of wildlife. Vegetation is a large component of wildlife habitat. As diversity of plant communities increases along with connectivity with other habitats, so does potential wildlife diversity. In addition, a variety of open water, intermittent ponding, and perennial ponding is also an important habitat element for wildlife.

Protocol surveys for least Bell's vireo and southwestern willow flycatcher were conducted in two riparian wetlands and three constructed ponds and in all cases, the result were negative. Although surveys were performed for yellow-billed cuckoo, the riparian habitat within the PIA is not suitable for this species. Please refer to Section 4.1.2 Riparian Species: Least Bell's Vireo, Southwestern Willow Flycatcher, and Western Yellow-Billed Cuckoo for a full discussion of the focused survey methods and results.

Although surveys were negative for sensitive riparian species within the PIA, the vegetation associated with these areas may provide some benefit to birds and other wildlife species. However, this wildlife habitat is considered much less intact than riparian habitat along natural water courses due to the relatively small area, isolated nature and surrounding land uses associated with these areas.

Aquatic Habitat

The ability of a wetland or stream to support aquatic species requires that there be ample food supply, pool and riffle complexes, and sufficient soil substrate. Food supply is typically in the form of aquatic invertebrates and detrital matter from nearby vegetation. Pool and riffle complexes provide a variety of habitats for species diversity as well as habitat for breeding and rearing activities. Species diversity is directly related to the complexity of the habitat structure (Dudek, 2013).

Some of the riparian areas within the PIA are seasonally inundated but none of them are associated with flowing water and therefore provide no functional value in terms of riverine aquatic habitat. The largest constructed pond appears to support semi-permanent waters, which may allow for a more diverse aquatic environment, and is considered to provide a greater amount of function value in terms of aquatic habitat relative to the areas that were dry or remain ponded for shorter periods. Overall these areas provide limited aquatic habitat due to the seasonal inundation and lack of perennial waters.

Riverine Resources (Salt Creek and Hemet Channel)

Hydrologic Regime

The Salt Creek and Hemet Channels are constructed water conveyance channels that receive storm water runoff from the city of Hemet and surrounding areas through drainages and storm water channels (Figure 4.1-1, sheet c). The Hemet Channel originates on the north side of Salt Creek, near Patterson Avenue. The existing channel runs in a northeasterly direction across open fields

and along the railroad ROW to its terminus in central Hemet near the intersection of Florida Avenue and State Street. The channel has been constructed to its ultimate capacity from Florida Avenue to Cawston Avenue as a concrete-lined, trapezoidal channel of varying cross-sections. Downstream of Cawston Avenue, the existing channel has an earthen trapezoidal section of varying width and depth with a clean sandy bottom and is free of vegetation. Culvert crossings exist at Warren Road, California Avenue, Simpson Road, and Olive Avenue. Each crossing includes multiple corrugated metal pipe culverts and associated erosion protection on the channel invert and side slopes. Hydrology of the Hemet channel consists primarily of short duration, and occasionally high intensity flows in response to storm events, with no flowing or standing water present throughout most of the year.

In 1973, Neste, Brudin & Stone, Inc. (NBS) prepared a report for the Riverside County Flood Control and Water Conservation District (RCFCD), entitled *Conceptual and Preliminary Engineering Plan, Salt Creek Channel, Hemet to Sun City, California*. This report recommended the construction of the Salt Creek Flood Control Channel from Lindenberger Road in Menifee to Lyon Avenue in Hemet and has served as a planning guide for proposed developments in and around the Salt Creek Basin. In 1994, BSI Consultants, Inc. prepared construction plans for Salt Creek Channel improvements from Winchester Road to Cawston Avenue. The plans called for a channel with a bottom width of 230 ft, side slopes of 14:1, and a right-of-way of 520 ft. This channel was constructed in 1996 by RCFCD. As with the Hemet Channel, the hydrology of this feature consists primarily of short duration, and occasionally high intensity flows in response to storm events; however, some flowing or standing water may persist in low flow channels for some duration following major flow events.

Flood Storage and Flood Flow Modification

As a constructed flood control channel, Salt Creek and Hemet Channels function at a high level to convey flood waters resulting from large storm events; therefore they have high functional value in terms of flood flow modification.

Sediment Trapping and Transport

The Salt Creek and Hemet Channels are constructed flood control channels characterized by broad, gently sloping vegetated banks. The channels were constructed to convey flood waters away from urban and agricultural lands and therefore likely maintained to facilitate unimpeded movement of water. Vegetation throughout the channels is characterized by herbaceous species including salt grass, foxtail barley, white sweet clover, bur clover, soft chess, and summer mustard. Woody shrubs and trees that would more effectively slow water flows are absent. However, the gently sloping vegetated banks, would allow water to move more slowly than an unvegetated channel, and the presence of the vegetation may allow for suspended sediment to settle. Overall, these channels would function at a low-level for sediment trapping.

Nutrient Retention and Transformation

Salt Creek and Hemet Channels consist primarily of low growing vegetation as described above in Sediment Trapping and Transport. The amount of water present within the channels depends on the amount and timing of rainfall each year. Variations in nutrient retention would occur as a result of the seasonal variations in hydrology within the channels. During relatively slow flows, there is a moderate potential for nutrient removal and transformation due to the cover of vegetation along the banks and within the channels. Low flow channels and areas with seasonally standing water, and the assumed presence of microorganism, also provide for some nutrient retention and transformation. During periods of high flows, the channels likely provide minimal value in terms of nutrient retention and transformations. Therefore, Salt Creek and Hemet Channel would function at a low to moderate level for nutrient retention and transformation.

Toxicant Trapping

Soils within Salt Creek and Hemet Channels were composed of very dark gray sand, loamy sand, and sandy loam textures (RCTC 2008). Soils within Salt Creek and Hemet Channels in the PIA consisted mainly of somewhat poorly drained, fine, sandy loam. These soils are not considered to have high clay content to trap nutrients and toxicants. However, as described above in Sediment Trapping and Transport, the low growing vegetation could allow the water to move slowly and allow for suspended sediment to settle, which could include toxicants and other nutrients. Therefore, Salt Creek and Hemet Channels within the PIA function at a low level for toxicant trapping.

Public Use

Salt Creek and Hemet Channels, within the PIA, provide little, if any, recreational opportunities or other public use.

Wildlife Habitat

Salt Creek Channel is identified as Existing Constrained Linkage B in the MSHCP. This linkage provides for movement of wildlife species from the Hemet area in the east to Canyon Lake in the west. Therefore, wildlife habitat is a high-level function for Salt Creek Channel.

Hemet Channel is not identified as an MSHCP linkage, however, it does connect to Salt Creek Channel, and could provide for wildlife movement. Therefore, wildlife habitat is a moderate to high-level function for Hemet Channel.

Aquatic Habitat

Salt Creek and Hemet Channels are ephemeral storm water channels with relatively short periods of inundation. Therefore, the channels do not provide habitat for aquatic species (low-level function).

4.1.1.3 Determination of Biologically Equivalent or Superior Preservation for Riparian/Riverine Resources

For unavoidable impacts to riparian/riverine areas, the MSHCP requires that a project demonstrate that it would be “biologically equivalent or superior” to complete avoidance of existing habitat. As

outlined in Table 4-2, the Project would result in impacts to 5.27 acres of riparian habitat throughout the Project alignment, and 3.48 acres of riverine habitat within Salt Creek and Hemet Channels.

For temporary impacts to 3.48 acres of riverine habitat located within Salt Creek and Hemet Channels, the Project would restore temporarily impacted areas to pre-Project conditions once construction is complete. Restoration would include grading of disturbed areas to pre-project contours and reseeding with native plant species. Detailed restoration procedures as well as post construction monitoring of these areas will be included in the Habitat Mitigation and Monitoring Plan that will be included with the USACE Section 404 Clean Water Act Permit Application.

The Project would also mitigate off site for permanent impacts to 5.27 acres of riparian and 0.004 acres riverine habitat. Since there are no approved mitigation banks or in lieu fee programs available within the Santa Margarita Watershed, permittee-responsible mitigation will be the approach for mitigating riparian/riverine impacts. The primary objective of the off-site mitigation would be to offset the loss of functions as a result of unavoidable impacts to riparian/riverine habitat. The mitigation strategy for unavoidable impacts to riparian/riverine habitat would be focused on the preservation of land containing rare, high value aquatic resources that are currently threatened by urban development, and/or sites adjacent to existing preserved areas to create contiguous sections of protected habitat.

All of the impacted MSHCP Riverine and Riparian resources are also jurisdictional waters of the United States (USACE 2011). Mitigation for these resources will therefore be included as part of the overall wetland and waters mitigation of the project. One of the primary objectives of the USACE, in terms of wetland mitigation, is to “*maintain and improve the quantity and quality of wetlands and other aquatic resources in watersheds through strategic selection of compensatory mitigation sites*” (40 CFR 230). The MSHCP provides an important context for mitigation planning because it was developed based on key principles of conservation biology including conservation of large habitat blocks, conservation of habitat diversity and contiguous connected preserves. Other important considerations identified in the MSHCP include biological diversity, population abundance, irreplaceability, representativeness, number of threatened and endangered species, naturalness, threats and management among others. All of these factors were taken into consideration when identifying potential mitigation sites. In particular, key factors used in the identification of mitigation sites included the following criteria:

- Sites that contained relatively intact vernal pools, alkali grasslands and alkali playas
- Sites that were part of a larger vernal pool landscape
- Sites adjacent to existing preserved areas to create contiguous sections of protected habitat
- Areas that had been identified as MSHCP criteria cells and core linkage areas
- Areas designated as critical habitat for spreading navarretia
- Sites that provided habitat for large populations of threatened and endangered species
- Sites that are currently unprotected and threatened by urban development

Assessment of Impacted Riparian Habitat and Proposed Mitigation Sites

All of the riparian impacts are associated with relatively isolated areas, mostly surrounded by agricultural lands and vacant disturbed lands. As stated in Section 4.1.1.1, the San Jacinto River north of the Project area is bounded by earthen levees, and the landscape in the area is sloped to the west. None of these features have direct connectivity to the San Jacinto River and none of the impacted riparian areas are located in MSHCP criteria cells, core linkage areas, designated critical habitat, or support threatened or endangered species.

Table 4-4 depicts the impacts to riparian/riverine areas within Build Alternative 1br, as well as the proposed mitigation acreages.

Table 4-4. Riparian and Riverine Mitigation Acreages

	Permanent Impacts (acres)	Temporary Impacts (acres)	Total Impacts (acres)	Proposed Mitigation Acreage	Type of Mitigation Proposed
Riparian habitat*	5.27	0.0	5.27	18.6 acres of vernal pools; 1.85 acres of seasonal wetlands; and 1.26 acres of constructed ponds (21.71 acres total)	Off-site preservation and establishment, reestablishment, and/or enhancement
Riverine habitat (Salt Creek and Hemet Channel)	0.004	3.48	3.48	3.48	On site restoration for temporarily impacted areas; same as off-site preservation for riparian habitat for permanently impacted areas

* The riparian category includes seasonal wetlands, as they were surrounded by riparian vegetation, and did not meet the definition of an MSHCP vernal pool

No properties or lands have been acquired to date that will serve as mitigation lands. Once a Record of Decision has been made on the final environmental document, RCTC will initiate the process to acquire mitigation lands. However, there are five sites that have been evaluated on a cursory level that will be the focus of mitigation efforts; all five sites are proposed for acquisition for mitigation. Final mitigation site selection and a Habitat Management and Monitoring Plan (HMMP) and updated DBESP shall be submitted to the Western Riverside County Regional Conservation Authority (RCA) and Wildlife Agencies prior to acquisition of any mitigation property. It is the intent of RCTC to acquire mitigation lands prior to the start of construction. Once the properties have been acquired, the lands will either be transferred directly to the RCA, or a conservation easement will be obtained to ensure the long-term preservation of the properties. In the event one or more of these proposed mitigation sites are not available, RCTC will reinitiate consultation with the RCA and resource agencies to identify alternative mitigation options.

The five sites proposed for mitigation were included in the environmental surveys and wetland delineation for the Project, so detailed ecological information is available for comparison with the impacted sites, as shown in Table 4-5 below. In addition to the significant wetland and other

biological resources associated with each of these sites (including large populations of threatened and endangered species), these areas were selected because they have all been identified as being within MSHCP criteria cells and core linkage areas, are within designated spreading navarretia (*Navarretia fossalis*) critical habitat, and are adjacent to, and would expand upon, existing conserved lands. Also, while partially fragmented by roads, the San Diego Canal, and residential developments, these proposed mitigation sites are part of what is likely one of the best remaining examples of vernal pool habitat remaining in the region. As shown in Table 4-5 below, the collective mitigation sites would result in the preservation of an additional 242 acres of preservation of MSHCP criteria habitat containing over 20 acres of vernal pool and seasonal wetland habitat, burrowing owl habitat, and thousands of rare plants. No creation, restoration or specific enhancement of aquatic habitat is currently proposed as part of the mitigation plan. The following paragraphs describe each proposed mitigation site.

Mitigation Site 1

Mitigation site 1 is located on the east side of MSHCP criteria cell 3887 and includes a total of approximately 60 acres. The entire site contains suitable habitat for burrowing owl (See Section 4.3.3.3). This site also includes the 2.5-acre Stowe vernal pool complex. The pools on this site support the only documented location for the federally endangered vernal pool fairy shrimp (*Branchinecta lynchi*) in the vicinity of the Project, as well as significant large populations of threatened and endangered plant species, such as spreading navarretia, California Orcutt grass (*Orcuttia californica*), and San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*) [Table 4-5].

Mitigation Site 2

Mitigation site 2 is located in MSHCP criteria cell 3891. This site contains 1.16 acres of vernal pools and 1.85 acres of seasonal wetlands. This site, which totals over 95 acres and is located across from the Stowe vernal pool complex, also supports a very large population of San Jacinto Valley crownscale, and populations of spreading navarretia, which are both federally listed as threatened plant species (Table 4-5). This entire site contains suitable burrowing owl habitat (See Section 4.3.3.3).

Table 4-5. Mitigation Summary

MSHCP Resource	Build Alternative 1br Permanent Impacts	Mitigation Site 1	Mitigation Site 2	Mitigation Site 3	Mitigation Site 4	Mitigation Site 5	Mitigation Summary Total
Riverine (Salt Creek Channel) (acres)	0.004	0.0	0.0	0.0	0.0	0.0	0.0
Riparian Wetlands (acres)	1.6	0.0	0.0	0.0	0.0	0.0	0.0
Constructed Ponds (acres)	3.2	0.0	0.0	0.0	1.26	0.0	1.26
Vernal Pool Fairy Shrimp (FT)	No	Yes	No	No	No	No	N/A
Vernal Pools (acres)	1.99	2.51	1.16	4.65	3.39	6.90	18.61
Seasonal Wetlands (acres)	0.45	0.0	1.85	0.0	0.0	0.0	1.85
Spreading Navarretia (FT) (individuals)	0	28,533	1,547	247	606	0	30,933
California Orcutt Grass (FE) (individuals)	0	2,646	0.0	0	0	0	2,646
San Jacinto Valley Crownscale (FT) (individuals)	0	376	25,349	4,522	3,943	1,762	35,952
Thread-Leaved Brodiaea (FE) (individuals)	0	0	32	0	0	0	32
Smooth Tarplant (CNPS 1B.1) (individuals)	>3000*	90	379	1,144	21	0	1,634
Davidson's Saltscale (CNPS 1B.2) (individuals)	0	0	1,730	5	358	1	2,094
Little Mouseltail (CNPS 3.1) (individuals)	0	1,954	16,618	33,781	52	510	52,915
Burrowing Owl (individuals)	1 pair	60.02	95.25	31.98	21.19	33.51	241.95
Priority Conservation Criteria							
MSHCP Criteria Cell (acres)	62.49 in cells: 2364, 3291, 3584, 3683	59.86	95.17	31.89	21.20	33.52	241.64
MSHCP Core Linkage	No	Yes	Yes	Yes	Yes	Yes	Yes
Part of Larger Vernal Pool Landscape	No	Yes	Yes	Yes	Yes	Yes	Yes
Adjacent to Existing Preserve	No	No	No	Yes	Yes	Yes	Yes

Table 4-5. Mitigation Summary

MSHCP Resource	Build Alternative 1br Permanent Impacts	Mitigation Site 1	Mitigation Site 2	Mitigation Site 3	Mitigation Site 4	Mitigation Site 5	Mitigation Summary Total
Surrounding Upland Habitats	Alkali Grassland / Annual Grassland / Ruderal /Disturbed	Alkali Grassland / Annual Grassland/ Riversidian Sage Scrub	Alkali Grassland / Alkali Playa Annual Grassland	Alkali Grassland / Alkali Playa /Annual Grassland	Alkali Grassland / Alkali Playa Annual Grassland	Alkali Grassland / Alkali Playa Annual Grassland	Alkali Grassland / Alkali Playa Annual Grassland

* This number represents all smooth tarplant populations and individuals in the permanent impact area for Build Alternative 1br and is not limited to plants with Long-Term Conservation Value.

Mitigation Site 3

This approximately 32 acre mitigation site is located in MSHCP criteria cell 3791. This site includes 4.65 acres of vernal pools. As with sites 1 and 2, this area also provides habitat for threatened plant species: San Jacinto Valley crowscale and spreading navarretia (Table 4-5), and burrowing owl (See Section 4.3.3.3). This site is also significant as it is located immediately adjacent to the existing Metropolitan Water District (MWD) Salt Creek Preserve, as well as conservation lands recently acquired by the RCA. The acquisition of this parcel would result in a large contiguous block of preserved habitat.

Mitigation Site 4

This site is located in MSHCP criteria cells 3684 and 3792, immediately adjacent to the MWD and RCA preserves and the total acreage of this parcel is approximately 21 acres. This site contains 3.39 acres of vernal pool habitat, as well as a constructed pond. As with the other mitigation sites, this area supports San Jacinto Valley crowscale and spreading navarretia populations, which are both federally threatened plant species (Table 4-5), as well as suitable burrowing owl habitat (See Section 4.3.3.3). This site is also contiguous with RCA conserved lands to the east along the west side of Warren Road.

Mitigation Site 5

This site is also located in MSHCP criteria cell 3792, immediately adjacent to existing RCA conserved lands and totals over 33 acres. This site includes 6.90 acres of vernal pool habitat. Of all of the proposed mitigation sites presented in this document, this site is the most disturbed as a result of regular disking. Despite this disturbance, this complex supports a number of vernal pool plants including a large population of the federally threatened San Jacinto Valley crowscale (Table 4-5). This entire site contains suitable habitat for burrowing owl (See Section 4.3.3.3).

While these proposed mitigation sites do not contain riparian wetlands, the value of these sites is considered to be higher than the value of the riparian areas being impacted by Build Alternative 1br. The impacted riparian areas within Build Alternative 1br consist of constructed ponds, riparian wetlands, and seasonal wetlands, where there are no surrounding natural wetlands and most of the adjacent land use is comprised of either disturbed lands or agricultural lands. The impacts to these riparian areas would be off-set by preservation of high priority vernal pool habitats; thereby protecting higher value areas for impacts to lower value areas.

With the above measures incorporated, *the Project would provide equivalent and superior mitigation* to the riparian and riverine resources that would be impacted within Build Alternative 1br.

4.1.2 Riparian Species: Least Bell's Vireo, Southwestern Willow Flycatcher, Western Yellow-Billed Cuckoo

Least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) are all MSHCP Covered

Species, for which focused surveys are required. These species are included in MSHCP Section 6.1.2 (RCIP 2003). As such, habitat assessments and focused surveys for these species were conducted in the Study Area during 2005. The survey report is included as Appendix A-1, Final Riparian Bird Survey Report.

4.1.2.1 Methodology

Least Bell's vireo

A habitat assessment for least Bell's vireo took place on March 17 and 18, 2005. Focused surveys were subsequently conducted in areas with potentially suitable riparian habitat within the Study Area, which included the PIA and a 500 foot buffer beyond the ROW. The least Bell's vireo survey guidelines established by USFWS (2001) require eight surveys in each survey area between April 10 and July 31. These surveys are to be conducted at least 10 days apart to determine the presence or absence of nesting least Bell's vireos. Surveys were conducted between April 12 and July 25, 2005. A summary of surveys by date, time, and survey site is in the Final Riparian Bird Survey Report of December 2007 (Appendix A-1).

The eight focused surveys were conducted by biologists who were experienced with the songs, whisper songs, calls, scolds, and plumage characteristics of adult and juvenile vireos. Surveys took place between 5:30 a.m. and 11:00 a.m. during suitable weather conditions. No more than 50 hectares (ha) (123.5 acres) of suitable riparian habitat were surveyed per day. The biologists walked all suitable riparian habitats and positioned themselves in the best locations to listen and look for vireos. If a least Bell's vireo was detected, it was observed until territory information or a positive location could be obtained. All vireo detection, including number of individuals, sex, age, and leg bands, was recorded on standardized data sheets. In addition to the least Bell's vireo, any detections of the parasitic brown-headed cowbird (*Molothrus ater*) or other bird species were also recorded.

Southwestern Willow Flycatcher

A habitat assessment for southwestern willow flycatcher took place on March 17 and 18, 2005. Focused surveys were subsequently conducted in areas with potentially suitable riparian habitat within the Study Area for wildlife surveys (PIA plus 500 foot buffer). The southwestern willow flycatcher survey protocol, established by Sogge (1997) and modified by the USFWS, consists of five surveys in each survey site between May 15 and July 17 (USFWS 2000¹). The five surveys are to be conducted in three survey periods, one between May 15 and May 31, one between June 1 and June 21, and three between June 22 and July 17. The three surveys needed in the third survey period are to be at least 5 days apart. Surveys for southwestern willow flycatchers took place in the study area between May 16 and July 6, 2005. Surveys began between 5:30 a.m. and 6:00 a.m., lasted 4 to

¹ Although USFWS has since issued a 2010 update to the southwestern willow flycatcher survey protocol, focused surveys for the Project were conducted in 2005 prior to the update and were therefore conducted in accordance with Sogge (1997) and USFWS (2000) survey protocols.

4.5 hours, and ended no later than 10:00 a.m. Surveys only took place in appropriate weather; mornings with rain or excessive wind were avoided.

Tape playbacks were used during the surveys, as outlined in Sogge (1997). Tape playbacks are a reliable method of determining southwestern willow flycatcher presence or absence and breeding status (territorial residents versus migrants). This survey technique involved playing tape-recorded southwestern willow flycatcher songs at 30 m (98.4 ft) intervals along the survey routes to elicit a response from individuals, if present. A southwestern willow flycatcher survey tape, distributed by the Arizona Game and Fish Department, was played at natural volume and included a mixture of “fitz bew” songs and “whit” calls.

A period of 1 or 2 minutes was taken at the beginning of each day’s survey route to listen for southwestern willow flycatchers and to acclimate the surveyor to background noise and the sounds of other birds singing and calling in the area. After the initial listening period, the taped southwestern willow flycatcher song was played for 15 to 30 seconds, followed by a 1- or 2-minute listening period. If no southwestern willow flycatchers were detected, the surveyors walked 30 m (98.4 ft) to the next survey station and repeated this process. A 10- to 20-second listening period took place at each survey station before playing the tape.

Several *Empidonax* flycatchers look very similar and may pass through the San Jacinto Valley during migration. Therefore, positive identification of a southwestern willow flycatcher can only be made by hearing the “fitz-bew” song. Once a southwestern willow flycatcher was detected, the tape was no longer played or was played again only very briefly to avoid harassing the birds or attracting the attention of potential predators and brood parasites. Any southwestern willow flycatchers that were heard were visually monitored for a few minutes to determine the exact location and territory information. After viewing the legs of the willow flycatchers to ascertain banding information, surveyors continued on to the next calling station, 30 m (98.4 ft) away. All detections were mapped and recorded on standardized data sheets. Negative survey data were recorded in the same manner. These data sheets were filled out daily and submitted to CDFW and USFWS as part of the 90-day report, as required by the federal endangered species permits. Other information recorded on the data sheets included vegetation characteristics of the study area, dominant tree species and canopy height, presence of cowbirds, evidence of cattle grazing, and presence of surface water.

Western Yellow-Billed Cuckoo

Although surveys were conducted for western yellow-billed cuckoo concurrently with the southwestern willow flycatcher and least Bell’s vireo surveys, the habitat in the study area is poor quality and is essentially unsuitable for the western yellow-billed cuckoo. Because the western yellow-billed cuckoo was not detected and is not expected to be present in the study area, this species is not discussed or evaluated further.

4.1.2.2 Results/Impacts to Riparian Species

One solitary male least Bell's vireo was detected during protocol surveys (by both observation and vocalization) 95 m (317 ft) outside of the study area near Utility Relocation Area 2. This location is shown in Figure 3.3-46 of the survey report included as Appendix A-1. The solitary male was heard vocalizing and was observed foraging along the San Jacinto River in a dense area of mule fat scrub surrounded by cottonwood willow riparian woodland. This was the only detection of least Bell's vireo during the focused surveys and it was located more than 1,000 ft northwest of Roadway Segment N in the north, well beyond the study area. No nesting least Bell's vireos were found. Because the individual was not detected within the study area which was developed to account for direct impacts to habitat loss and indirect impacts resulting from foreseeable indirect effects of construction and roadway operation, no permanent or temporary impacts to least Bell's vireos are anticipated as a result of the Project.

One migrant willow flycatcher was detected (by both observation and vocalization) in the study area during the first protocol survey, approximately 135 m (442 ft) east of the PIA of Roadway Segment M. The individual was not with a mate, and no nesting behavior was observed. Because the willow flycatcher was a migrant and did not nest, the surveyor concluded that this was not the federally endangered southwestern sub-species. Therefore, no permanent or temporary impacts to southwestern willow flycatcher are anticipated as a result of the Project. Additional information can be found in the survey report included as Appendix A-1, Final Riparian Bird Survey Report.

4.1.3 Vernal Pools

Vernal pools are described in MSHCP Section 6.1.2 as seasonal wetlands that occur in depressions and contain all three USACE wetland parameters (soils, vegetation, and hydrology). The determination of vernal pool habitat in the proposed Project area was conducted on a case-by-case basis. Seasonal wetlands that did not exhibit vernal pool characteristics during the wet season or shortly thereafter, or that were artificially created, were not considered to be vernal pool habitat during the assessment. Instead, seasonal wetlands mapped within Build Alternative 1br are included in the riparian/riverine category above in Section 4.1.1, Riparian/Riverine Resources, based on vegetation, soil and hydrological characteristics.

4.1.3.1 Methodology

The locations of MSHCP vernal pool habitats were determined in the field and subsequently verified using a combination of the wetland delineation and plant community data sets. As such, the methodology for vernal pools is the same as that which was used during the wetland delineation described above in riparian/riverine resources, Section 4.1.1.1.

4.1.3.2 Results/Impacts to Functions and Values of Vernal Pools

Build Alternative 1br would permanently impact 1.99 acres of vernal pools located near Esplanade Avenue and Warren Road (VP 0109, 0110, and 0111). (Figure 4.1-5). A vernal pool complex, containing LTCV little mousetail populations, was identified in the indirect impact area within

Criteria Cell 3291 along the edge of Roadway Segment J; however, this complex is located outside of the direct impact area and would be protected by ESA fencing, as described above in Section 3.3, Avoidance of Impacts (also refer to Section 4.3.1.2, Criteria Area Species Survey Area, Results). Table 4-6 summarizes impacts to vernal pool resources.

Table 4-6. Impacts to MSHCP Vernal Pool Resources

MSHCP Vernal Pool Resource	Permanent (acres)	Temporary (acres)*
Vernal Pools	1.99	0.0
Total	1.99	0.0

*All MSHCP Vernal Pool Resources would be permanently impacted within the PIA; there are no temporary construction areas within the PIA.

The following discussion outlines the functions and values outlined in section 6.1.2 of the MSHCP for mapped vernal pools.

Hydrologic Regime

Vernal pool hydrology is highly variable as observed during vernal pool invertebrate surveys and wetland delineation studies. Water depth typically ranged from 5 to 30 cm (2 to 12 inches). Following significant storm events, particularly during the winter of 2005, extensive flooding and inundation were observed in several vernal pool habitats, resulting in interconnection of the vernal pool basins and drainages through overland flows.

Flood Storage and Flood Flow Modification

As stated above in Hydrologic Regime, the vernal pools within the PIA exhibited extensive flooding and inundation after significant storm events. Because these wetlands are likely filled to capacity as a result of heavy rains, the vernal pools function at a low level to slow the velocity of flows during periods of flooding from a large storm event.

Sediment Trapping and Transport

The vernal pools within the PIA are depressions, the largest of which is located in a grazed horse pasture. The low growing herbaceous vegetation typically present during the wet season does not impede water movement and transport; however the seasonal inundation and low grade does allow for suspended solids to settle. Therefore, the vernal pools within the PIA function at a moderate level for sediment trapping. Nutrient Retention and Transformation

Nutrient retention in wetlands is generally accomplished through absorption of elements to the soil and by uptake and retention by wetland vegetation. Nutrient retention is variable among different types of wetlands depending on factors such as type and amount of vegetation, soil texture, amount of organic matter, and duration of inundation among others. Vernal pool vegetation is generally characterized by a dynamic annual flora that changes throughout the season as a result of differing phases of inundation and soil moisture. Within the PIA, vernal pools soils are typically alkaline

resulting in increased amounts and availability of phosphorous. Therefore, the function of nutrient retention in vernal pools is low. Nutrient transformation and nutrient cycling are important characteristic of vernal pools, particularly in terms of nitrogen fixation by cyanobacteria and nitrogen cycling. The function of vernal pools in terms of nutrient transformation is therefore high.

Toxicant Trapping

As with nutrient trapping, the ability of wetlands to trap and hold toxicants is largely dependent on absorption to soils and uptake by wetland vegetation. Limited information is available on the fate of toxicants in vernal pools, particularly vernal pools in California. Battaglin et al. (2009) found numerous common pesticide chemicals can accumulate in vernal pools in concentrations that exceeded the freshwater aquatic life standard. During the aquatic phase, vernal pool vegetation is often absent, sparse, or low growing and submerged, and provides limited value in terms of toxicant uptake and storage. Overall, vernal pools are considered to have low value in terms of toxicant trapping.

Public Use

The vernal pools within the PIA are on private property and do not provide for recreation or other public use.

Wildlife Habitat

The vernal pools within the PIA may provide habitat for waterfowl and resident bird species during the wet season when the pools are inundated; however during the dry season, they provide limited habitat for wildlife species. Therefore, the vernal pools function at a moderate to low level for wildlife habitat.

Aquatic Habitat

The vernal pools within the PIA provide suitable habitat for vernal pool branchiopods and aquatic invertebrates as well as amphibians, waterfowl and shorebirds. Additionally, vernal pools provide unique habitat for a number of rare and or endemic plant species. During fairy shrimp surveys, the vernal pools within the PIA (VP 0109, 0110, and 0111) contained the common versatile fairy shrimp (*Branchinecta lindahli*). Vernal pools function at a high level for aquatic habitat.

4.1.3.3 Determination of Biologically Equivalent or Superior Preservation for Vernal Pools

For unavoidable impacts to vernal pool areas, the MSHCP requires that a project demonstrate that it would be “biologically equivalent or superior” to complete avoidance of existing habitat. As outlined in Table 4-6, the Project would result in impacts to 1.99 acres of vernal pool habitat.

The Project would mitigate off site for permanent impacts to MSHCP vernal pool habitat. The same mitigation sites proposed for riparian/riverine impacts would be used to mitigate for impacts to MSHCP vernal pool habitat (Table 4-5 above). As stated above in Section 4.1.1.3, Riparian/Riverine DBESP, the primary objective of the off-site mitigation would be to offset the loss of functions as a

result of unavoidable impacts to vernal pool habitat. The mitigation strategy for unavoidable impacts to vernal pool habitat would be focused on the preservation of land containing rare, high value aquatic resources that are currently threatened by urban development, and/or sites adjacent to existing preserved areas to create contiguous sections of protected habitat. This mitigation approach is based on offsetting impacts to fragmented, generally low quality vernal pool habitat with the protection of a large area of high value vernal pool habitat.

Table 4-7 depicts the impacts to MSHCP vernal pool habitat within Build Alternative 1br, as well as the proposed mitigation acreages.

Table 4-7. MSHCP Vernal Pool Habitat Mitigation Acreages

	Permanent Impacts (acres)	Temporary Impacts (acres)	Total Impacts (acres)	Proposed Mitigation Acreage	Type of Mitigation Proposed
Vernal Pools	1.99	0.0	1.99	18.6 acres of vernal pools; 1.85 acres of seasonal wetlands; and 1.26 acres of constructed ponds (21.71 acres total)	Off-site preservation

With the above measures incorporated, *the Project would provide equivalent and superior mitigation* to MSHCP vernal pool habitat impacted by Build Alternative 1br.

4.1.4 Fairy Shrimp

This section describes the methodology and results of fairy shrimp surveys for Build Alternative 1br.

4.1.4.1 Methodology

Vernal pool branchiopod surveys were conducted by permitted biologists from 2000 through 2007 in accordance with both MSHCP requirements (RCIP 2003) and the USFWS wet season and dry season survey guidelines (USFWS 1996) to determine the presence or absence of listed vernal pool branchiopods in the Study Area (PIA plus 100 ft). The survey report is included as Appendix A-2, Final Vernal Pool Branchiopod Survey Report.

Western Riverside County Multiple Species Habitat Conservation Plan Survey Requirements

The Riverside fairy shrimp (*Streptocephalus woottoni*), vernal pool fairy shrimp (*Branchinecta lynchi*), and Santa Rosa plateau fairy shrimp (*Linderiella santarosae*) are Covered Species in the MSHCP. The Santa Rosa Plateau fairy shrimp is not expected to be present in the study area because it is restricted to the basalt flow vernal pools located on the Santa Rosa Plateau about 40 km (25 mi) southwest of the study area. Although no survey area has been designated for these species, Section 6.0 of the MSHCP requires mapping of any vernal pools, stock ponds, ephemeral pools, or other

water features to identify potential habitat areas. If potential habitat is identified, focused surveys for these species are required.

Areas of vernal pools, playas, open water, and wetlands within and adjacent to the study area that could provide suitable habitat for these listed vernal pool branchiopods are identified in the MSHCP map of wetland resources (Figure 2-3, MSHCP [RCIP 2003]). This map and Project-specific vegetation mapping were used to determine suitable branchiopod habitat in the study area. In addition, the study area was monitored during each wet season to identify suitable ponded water habitat. Suitable pools were measured in the field by mapping the perimeters with a Trimble GPS unit.

United States Fish and Wildlife Service Survey Requirements

The vernal pool wet season and dry season branchiopod surveys complied with the USFWS Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods (USFWS 1996).

Wet Season Survey Methodology

Between 2000 and 2007, wet season surveys were conducted by permitted biologists in suitable ponded areas in the Project study area. Suitable areas were monitored for ponding during each winter rainy season (October through April), and surveys began within 2 weeks after inundation was observed. A pool was considered inundated if it held 3 cm (1.2 inches) of standing water 24 hours after a rain. The pools were visited once every 2 weeks while they were inundated or until 120 days of inundation had occurred.

Samples were collected using a 1-millimeter (mm) (0.04-inch) dip net. Specimens were identified to species using a 14x-to-90x stereo zoom microscope and dichotomous key from *Fairy Shrimps of California's Puddles, Pools, and Playas* (Eriksen 1999).

Dry Season Survey Methodology

Dry season surveys were conducted in the Project study area by permitted biologists during September and October 2006 in accordance with USFWS guidelines (USFWS 1996). Ten soil samples were collected from the top 1 to 3 cm (0.4 to 1.2 inches) in the bottom of each pool. The soil samples were approximately 100 milliliters (mL) (6.10 cubic inches) each, for a total soil volume of 1,000 mL (61.0 cubic inches) from each pool. If the pool had a diameter of less than 3 m (9.8 ft), the total soil volume collected did not exceed 500 mL (30.5 cubic inches), and the soil samples were approximately 50 mL (3.05 cubic inches) each.

Soil samples were examined in the laboratory to identify branchiopod cysts to the lowest identifiable taxon. Cysts from the genus *Branchinecta* could not be identified to the species (only to genus) due to the similarity in the surface morphology of cysts. Within the genus *Branchinecta*, two species, *Branchinecta lynchi* and *Branchinecta lindahli*, are known to occur in this region. Because the results

of this dry season study required the determination to species for the *Branchinecta* genus, the cysts were hydrated and reared for identification.

Adult shrimp were reared from the recovered cysts following USEPA protocol (USEPA 1985, Rogers 2006). Reared adult shrimp were examined under a stereo dissection microscope and identified to species based upon comparisons with specimens in collections, the original species descriptions, and professional experience.

4.1.4.2 Results/Impacts

No listed vernal pool branchiopods were observed in the study area for Build Alternative 1br. Potential fairy shrimp habitat within the study area included tire ruts and roadside drainages, man-made depressions, depressions in active agricultural fields, and vernal pools. All pools received two surveys; either two wet season surveys or both a wet and a dry season survey. The only vernal pool branchiopod species observed in the study area for Build Alternative 1br was the non-listed versatile fairy shrimp. No MSHCP Covered vernal pool branchiopods were observed in the study area for Build Alternative 1br. A DBESP is not required for impacts to fairy shrimp.

4.2 Section 6.1.3 Compliance – Narrow Endemic Plant Species Survey Area

Portions of the Project study area fall within Area 3 of the Narrow Endemic Plant Species Survey Area (NEPSSA). Plant surveys conducted for the proposed Project were consistent with the MSHCP survey requirements. In accordance with the MSHCP, surveys for Narrow Endemic and Criteria Area plant species followed accepted protocols and were conducted during the appropriate time of year to detect characteristics necessary for positive identification of the plant. Planning Species, as described in Section 6.1.3 of the MSHCP (RCIP 2003) and as discussed in the MSHCP Errata letter (RCIP 2004), were also included in the surveys. The survey report is included as Appendix A-3, Final Rare Plant Survey Report.

The following plants require surveys within NEPSSA 3:

- Spreading navarretia (*Navarretia fossalis*)
- California Orcutt Grass (*Orcuttia californica*)
- Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*)
- Many-stemmed dudleya (*Dudleya multicaulus*)
- Munz's onion (*Allium munzii*)
- San Diego ambrosia (*Ambrosia pumila*)

4.2.1 Methodology

Rare plant surveys were conducted in 2005 and 2006. The 2005 and 2006 rare plant surveys followed currently accepted resource agency protocols and guidelines from the CNPS (2001), CDFG (2000), and USFWS (1996) for conducting and reporting botanical inventories of special-status plant species.

Following these protocols, rare plant surveys were carried out by botanists who had considerable experience with the local flora. All species observed during the surveys were identified to the degree necessary to determine if the plant had special status, including whether or not the species was threatened or endangered.

When MSHCP Covered Species were identified in the surveys, each population was evaluated for its LTCV. LTCV populations are Narrow Endemic and Criteria Area plants that are located in Criteria Area Cells or required survey areas and that can contribute toward MSHCP conservation objectives and reserve assembly.

Field surveys in 2005 began on March 1. The teams generally conducted surveys every other week through August 25, 2005, on 60 different occasions. The 2006 surveys began on March 6 and continued roughly every other week through August 24, 2006. One additional survey was conducted on September 25 to review some areas.

Suitable habitat for special-status plant species was identified in the study area prior to each survey. Some areas had suitable habitat for two or more target plants, and those areas were surveyed several times throughout the year as appropriate, following survey protocols. Reference sites were visited on an as-needed basis to determine the phenology (or life cycle) of target special-status plants. This was especially important for species not previously documented in the study area or known to be highly localized in the region.

The location of any observed special-status populations was recorded using the polygon feature in the GPS units unless the population was extremely large or was determined unsafe to map on foot (some of the steep terrain in the West Hemet Hills, for example). In these instances, and in a few other cases, the location of the population was denoted by a point.

Population sizes were obtained by direct counts, estimations, or by sampling and extrapolation. Plants within very small populations were counted. The numbers of plants for medium, large, or very large populations were visually estimated and rounded to the nearest appropriate digit (tens, hundreds, thousands, tens of thousands, or more). For example, counts of vernal barley (which was found in populations consisting of several thousand plants or more) were obtained by counting the number of plants present in a representative number of 1-square-meter (m^2) (3.2-square-foot [ft^2]) plots, then averaging the results to determine the number of plants per square-meter area. This plant density was then extrapolated to arrive at the approximate number of plants in a larger area.

Field visits were timed to occur during the optimum blooming period for special-status plants that were likely to be present in each site. Some sites required early-, middle-, and late-season surveys, depending on the type of and quality of habitat. All areas that were not surveyed during the appropriate time of year in 2005 were resurveyed during the correct period in 2006.

All botanists documented every field visit in their field notes, by area, and took photographs of field conditions. The survey team also recorded all plant communities and all plant taxa observed during

each field visit, on a per area basis. A list of the 506 plant species identified during the surveys is in Appendix F of the Natural Environment Study (NES) prepared for the Project. Photographs of the special-status plants found in the study area are in Appendix G of the NES.

The 2005 and 2006 rare plant surveys were conducted during years with above average or slightly below average rainfall. In 2005, precipitation totaled 47.1 cm (18.6 inches), more than double the seasonal average. Rainfall in 2006 totaled 24.7 cm (9.7 inches), or about 20 percent below the yearly average of 29.7 cm (11.7 inches) (WRCC 2007). Despite the nearly normal average rainfall totals, the distribution of rainfall during 2005-2006 was unusual. Precipitation in the Study Area was negligible during fall 2005 and winter 2006, but cool weather and heavy rainfall from late February through April 2006 brought seasonal totals to near average.

Because normal or nearly normal rainfall occurred in 2005 and 2006, the rare plant surveys would have been expected to detect any potentially occurring rare plants within areas of suitable habitat in the Study Area, should they have been present. Rare plant species dependent on very wet conditions, however, were less frequently encountered in 2006 compared to 2005.

4.2.2 Results/Impacts

None of the NEPSSA 3 plant species are located within the PIA of Build Alternative 1br. No impacts would occur and therefore, no DBESP is required.

4.3 Section 6.3.2 Compliance – Additional Surveys

Section 6.3.2 of the MSHCP requires surveys for the species for which coverage is sought under the MSHCP, where existing available information is not sufficient to make necessary findings to meet the Federal Endangered Species Act (FESA) issuance criteria for Habitat Conservation Plans (HCPs). For those species, survey requirements are incorporated in the MSHCP, to provide the level of information necessary to receive coverage for these species. This section describes the additional survey requirements from Section 6.3.2 of the MSHCP.

4.3.1 Criteria Area Species Survey Plants

Portions of the Project fall within Area 3 of the CASSA (Figure 4.3-1 a through j). Plants requiring surveys within CASSA 3 include:

- Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*)
- Davidson's saltscale (*Atriplex serenana* var. *davidsonii*)
- Little mousetail (*Myosurus minimus*)
- Parish's brittlescale (*Atriplex parishii*)
- Prostrate navarretia (*Navarretia prostrate*)
- Round-leaved filaree (*Erodium macrophyllum*)
- San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*)

- Smooth tarplant (*Centromadia pungens*)
- Thread-leaved brodiaea (*Brodiaea filifolia*)

Suitable habitat for all of the above plant species was identified within the Study Area.

4.3.1.1 Methodology

Methodology for CASSA Plants followed the same survey methods as described above in Section 4.2.1 for Narrow Endemic Plant Species.

4.3.1.2 Results/Impacts

Although little mousetail was identified in the indirect impact area in Criteria Cell 3291, these populations are located outside of the direct impact area (Figure 4.3-1, sheet g). No removal of little mousetail habitat would occur and ESA fencing would be installed to protect these populations as described above in Section 3.3, Avoidance Measures. The smooth tarplant is the only CASSA 3 species that would be permanently and directly impacted by Build Alternative 1br. Temporary impacts would not occur, as all areas required for construction were included in the permanent impact calculations. The locations of the little mousetail and smooth tarplant populations where Build Alternative 1br crosses CASSA 3 is provided in Figures 4.3-1 a through j, Location of Criteria Area Plants.

Smooth Tarplant

Smooth tarplant is an annual herbaceous plant that occurs in a variety of habitats including alkali scrub, alkali playas, riparian woodland, watercourses, and grasslands with alkaline affinities. The majority of the populations in western Riverside County are associated with alkali vernal plains (Dudek 2013). Smooth tarplant is tolerant of disturbance; and it can occur in disturbed sites and areas that are dryland farmed, as long as the soils are alkaline.

Smooth tarplant was the most widely distributed species observed within the study area during rare plant surveys, including fields, grassland habitat, dryland farmed fields, and along roadsides, from the very southern end of the study area, south of Newport Road, to the north end of the study area at the San Jacinto River (at Sanderson Road).

Build Alternative 1br would impact approximately 0.15 acres of smooth tarplant habitat within CASSA 3. The impacts to CASSA 3 plants suitable for long-term conservation value (LTCV) are limited to criteria cells 3683, 3584, and 3291. Within criteria cell 3683, there are 1000 plants, within criteria cell 3584 there are 884 plants, and within criteria cell 3291, there are 60 plants (Figure 4.3-1 a through j). Because these populations were identified within criteria cells within CASSA 3, they have LTCV. Table 4-8 summarizes the impacts to smooth tarplant.

Table 4-8. Impacts to CASSA Plants Suitable for Long-Term Conservation Value

CASSA Plant Species	Permanent Impacts (acres)	Temporary Impacts (acres)	Total Impact (acres)	Location	LTCV?	DBESP required?
Smooth tarplant (CASSA 3)	0.15	0.0	0.15	Criteria Cells 3683, 3584, 3291	Yes	Yes

4.3.1.3 Determination of Biologically Equivalent or Superior Preservation for Long Term Conservation Value Plants

Section 6.3.2 of the MSHCP requires a DBESP when a project cannot conserve/avoid 90% of the area determined to have LTCV. The DBESP shall provide equivalent or superior mitigation to the resources being impacted by the project, as compared to the impacts.

As shown above in Table 4-8, approximately 0.15 acres of LTCV smooth tarplant habitat would be permanently impacted by Build Alternative 1br. To mitigate for the loss of these LTCV populations, sites #1 through #4, as shown in Table 4-5 above in Section 4.1.1.3, Riparian/Riverine DBESP, would be used. These sites contain smooth tarplant populations that are within MSHCP Criteria Cells. Table 4-9 depicts the impacts to smooth tarplant within Build Alternative 1br, as well as the proposed mitigation acreage.

Table 4-9. Smooth Tarplant Mitigation Acreages

CASSA 3 Species	Permanent Impacts (acres)	Temporary Impacts (acres)	Total Impacts (acres)	Proposed Mitigation Acreage	Type of Mitigation Proposed
Smooth tarplant	0.15	0.0	0.15	1.2	Off-site preservation

With the preservation of occupied smooth tarplant habitat, *the Project would provide equivalent and superior mitigation* for approximately 0.15 acres of impact to smooth tarplant.

4.3.2 Amphibians

Arroyo toad (*Bufo californicus*), California red-legged frog (*Rana aurora draytonii*), mountain yellow-legged frog (*Rana muscosa*), and western spadefoot toad (*Scaphiopus hammondi*) are all MSHCP Covered Species. Although arroyo toad, California red-legged frog, and mountain yellow-legged frog require focused surveys per the MSHCP, none of the MSHCP survey areas for these species was in the Project study area. However, all four species are included in Section 6.1.2 of the MSHCP, Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools (RCIP 2003), so habitat assessments and amphibian surveys for these species were conducted within the Study Area, which included the PIA and an additional 100 foot buffer, in 2005 and 2006. The survey report is included as Appendix A-4, Final Sensitive Wildlife Survey Report.

4.3.2.1 Methodology

Daytime habitat assessments took place on April 5, 2005, and March 23, 2006. Based on the results of the habitat assessments and literature review, focused protocol surveys were not conducted for arroyo toad, California red-legged frog, or mountain yellow-legged frog. However, general nighttime surveys were conducted on April 5 and April 6, 2005, and March 27 through March 30, 2006, for other sensitive amphibians, such as the western spadefoot toad. To increase the potential for detection, surveys started shortly after dusk and ended about 10:00 p.m. Surveys were conducted in areas where amphibian larvae or adults were observed during vernal pool branchiopod surveys and where suitable riparian vegetation and aquatic habitat were known to be present. Biologists walked throughout all suitable habitat looking for amphibian larvae and/or adults. At strategic locations within each survey site, biologists paused to listen for amphibian vocalizations. Survey equipment included flashlights, a digital camera, and a Trimble GeoXT GPS unit. Photographs of suitable habitat and a more detailed discussion of the amphibian survey methodology are in the Final Sensitive Wildlife Survey Report (RCTC 2007a).

4.3.2.2 Results/Impacts

Sensitive amphibians were not detected in the study area; therefore no impacts would occur.

4.3.3 Burrowing Owl

Burrowing owl (*Athene cunicularia*) is a California Species of Concern and an MSHCP Covered Species, for which focused surveys are required. The Project study area contains suitable habitat for burrowing owl and is located within MSHCP-designated survey areas (shown in Figure 4.3-2). The survey report is included as Appendix A-5, Final Burrowing Owl Survey Report.

4.3.3.1 Methodology

The study area for burrowing owl consisted of the PIA and an additional 500 foot buffer.

Habitat Assessment

A habitat assessment and focused surveys were conducted during 2005 and 2006. A baseline habitat assessment was conducted throughout the study area on January 24, 2005. Habitat suitability was determined by driving and walking throughout the study area. Initial habitat suitability determinations were continually refined throughout the course of the 2005 and 2006 focused surveys as the study area was walked, surveyed, and closely inspected for burrowing owl indicators. The three categories of habitat suitability included excellent, suitable, and excluded and are described below.

Excellent Burrowing Owl Habitat

Excellent habitat included a wide range of habitat types, land uses, and disturbance levels, both natural and manmade. Types of excellent habitat included equestrian areas, pastures, grasslands, alkali playas, canal and railroad berms, dairies, poultry farms, and rock outcrops. Common factors in

excellent habitat included abundant ground squirrel burrows in open areas with short vegetation and suitable perch sites. An abundant food source was assumed present.

Suitable Burrowing Owl Habitat

Because of the rural character of the region, most of the study area can be considered suitable habitat for burrowing owls. Suitable habitat included a wide range of habitat types, land uses, and disturbance levels, both natural and manmade. Types of suitable habitat included agricultural fields, equestrian areas, pastures, grasslands, dairies, poultry farms, and rural residential areas. Suitable habitat still included suitable perch sites, but had few or no ground squirrel burrows, taller vegetation with more dense cover, and more human disturbance. Areas with irrigated row crops were considered suitable habitat, but only the perimeter roads, berms, canals, or debris piles were surveyed.

Excluded Burrowing Owl Habitat

Excluded habitat included developed areas with 100-percent asphalt or concrete and landscaped vegetation. Types of excluded areas included residences, mobile home parks, shopping plazas, industrial areas, and areas being actively graded for future development. Steep hillsides were also excluded because burrowing owls require relatively flat areas.

Focused Surveys

Focused surveys were conducted according to guidelines set forth by the California Burrowing Owl Consortium, CDFW-approved (formerly CDFG) Project-specific survey methodology, the MSHCP, and the County of Riverside's Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area (CBOC 1993, CDFG 1995², RCIP 2003, County 2006). The large scale of the Project required a revised survey methodology, which was approved by CDFW in July 2005 (see Appendix B from the Final Burrowing Owl Survey Report included as Appendix A-5).

Since focused surveys were conducted, the CDFG Staff Report on Burrowing Owl Mitigation has been updated (CDFG 2012). However, in order to remain consistent with how field data was collected, all subsequent impact analysis reflect the 1995 CDFG guidance, as well as project-specific methodology approved by CDFW at the time field work was conducted. Moving forward, all pre-construction and take avoidance surveys, as well as relocation efforts will be conducted according to the 2012 CDFG Staff Report or the most recent guidance at that time.

Qualified biologists experienced with burrowing owl habitat and identification conducted focused nesting surveys during the peak of breeding season, between April 15 and July 15. Three more surveys were conducted after July 15, but were still within the nesting cycle (February 1 to

² The March 7, 2012 Staff Report on Burrowing Owl Mitigation document replaces the Department of Fish and Game 1995 Staff Report On Burrowing Owl Mitigation. However, focused surveys for the Project were conducted in 2005 and 2006 prior to the update and were therefore conducted in accordance with the latest CDFG (1995) survey guidance at that time. Thus, survey data and subsequent data analysis reflect the 1995 guidance from CDFG and 1993 guidance from CBOC.

August 31). These three surveys were primarily to determine the number of young at several late nesting territories, so they had to take place after July 15, when the young were aboveground.

Burrowing owl focused surveys were conducted in 2005 and 2006. During the 2005 surveys, suitable habitat and excluded areas were surveyed once, and excellent habitat was surveyed twice. Night surveys were not conducted in 2005. The study area was expanded in 2006 and in keeping with the change in methodology that had been approved by CDFW, during the 2006 surveys of the new areas, suitable habitat and excluded areas were surveyed once, and excellent quality habitat was surveyed twice. Any excellent habitat that was surveyed twice in 2005 was surveyed once in 2006. All active territories (at least one adult sighted) discovered in 2005 were revisited in 2006 to determine whether they were still active and to document alternate nest sites. Although one night survey took place in 2006 to locate foraging areas, no attempt was made to quantify territory size or foraging range. Details about survey dates and personnel for the 2005 and 2006 focused surveys can be found in the Final Burrowing Owl Survey Report (Appendix A-5).

Burrowing owl presence was determined at all active territories by direct observation of at least one adult. A territory can be a single owl, a pair, or a family group. Nest burrows were observed in all cases. After detecting a territory, the biologists visited the area throughout the course of the breeding season until the breeding status and nest success were determined. Surveys were conducted during suitable weather conditions and, therefore, were not conducted within 5 days of measurable precipitation, during high winds (more than 32 km per hour [20 mi per hour]), or dense fog. Because burrowing owls tend to stay underground during the heat of the day, surveys were suspended when temperatures exceeded 90°F, then resumed when temperatures were conducive to detecting juvenile and adult owls outside their burrows. Specific information about survey times and weather conditions is in the Final Burrowing Owl Survey Report (Appendix A-5). Survey equipment included binoculars, spotting scopes, digital cameras, and Trimble GeoXT GPS units.

During all surveys, biologists recorded the habitat type and land use for each parcel on standardized data sheets. The presence of ground squirrel burrows, perimeter roads or berms, and posts were also documented. Biologists counted and mapped all burrowing owl observations, occupied nest burrows, and burrows with owl sign.

In order to facilitate an accurate count of owls between survey years and within the large survey area, burrowing owls were color banded. Resighting color banded owls also helped to determine dispersal and movement within the survey area (for example, the different nest burrows in 2005 and 2006 for RIV-BUO-005 and RIV-BUO-023 as shown in Figure 4.3-2, were mapped based on resights of color banded owls). More information regarding resights of color banded owls can be found in the Final Burrowing Owl Survey Report (Appendix A-5). The breeding activity and status of burrowing owls were determined by the number of young and stage of development.

Pedestrian Surveys

Traditional pedestrian surveys were conducted throughout excellent and suitable habitat. As recommended by the CBOC (1993), CDFG (1995), and County of Riverside Environmental Programs Department (2006), transects were spaced at approximately 30-m (98.43-ft) intervals, depending on terrain and vegetative cover. This enabled 100-percent visual coverage of the study area.

Perimeter Surveys

Perimeter surveys were conducted in portions of the study area that contained densely planted row crops, which were not considered suitable burrowing owl habitat and were essentially devoid of owls. However, many of these areas contain perimeter roads, berms, and canals that constitute excellent and/or suitable habitat. In these cases, the planted fields were not surveyed, but all perimeter roads, berms, and canals were surveyed at 100-percent visual coverage. In some cases, after areas with row crops were disked and harvested, perimeter surveys were followed by standard pedestrian surveys because disked fields provide excellent foraging habitat.

4.3.3.2 Results/Impacts

Build Alternative 1br would directly impact 1 pair of burrowing owls located in excellent habitat, in an agricultural field north of the Hemet Channel and south of Ranchland Road in Roadway Segment C (RIV-BUO-023) [Figure 4.3-2]. This pair of owls fledged three young in 2005 and one young in 2006 (RCTC, 2007b).

An additional four pairs of owls were identified within the indirect impact area (500 foot buffer) of Roadway Segments C and G (Figure 4.3-2), as summarized in Table 4-10 below. These four pairs of owls could be indirectly impacted by edge effects such as operational noise, habitat fragmentation, increased glare and light, habitat degradation due to increased litter, and increased mortality. Of the four pairs, one pair (RIV-BUO-024) was found just north of the pair that would be directly impacted (RIV-BUO-023) in ruderal habitat in Roadway Segment C (Figure 4.3-2).

Table 4-10. Burrowing Owl Impacts within Build Alternative1br

Burrowing Owl Pair	Direct Impacts	Indirect Impacts	Location	2005 Nest Success/# of Young	2006 Nest Success/#of Young
RIV-BUO-005	No	Yes	Criteria Cell 3683 northeast of Hemet Hills. Roadway Segment G.	Unknown/NA	Successful – 3 young
RIV-BUO-006	No	Yes	Northeast of Hemet Hills outside criteria cell. Roadway Segment G.	Successful – 2 young	Successful – 5 young
RIV-BUO-023	Yes	No	North of Hemet Channel south of Ranchland Road outside of criteria cell. Roadway Segment C.	Successful – 3 young	Successful – 1 young
RIV-BUO-024	No	Yes	North of Hemet Channel east of Ranchland Road outside of criteria cell. Roadway Segment C.	Successful – 4 young	Inactive – N/A

Table 4-10. Burrowing Owl Impacts within Build Alternative1br

RIV-BUO-052	No	Yes	Northeast of Hemet Hills outside criteria cell. Roadway Segment G.	N/A*	Successful – 5 young
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*RIV-BUO-052 was not detected until 2006

This pair was active in 2005 and fledged 4 young; however, no sign of activity was present the following year in 2006.

The remaining three pairs in the indirect impact area were found within excellent habitat in annual grasslands northeast of the Hemet Hills and south of Florida Avenue in Roadway Segment G (RIV-BUO-005, RIV-BUO-006, and RIV-BUO-052) [Figure 4.3-2]. These three pairs were not contiguous with the two pairs described above, as they were located over one mile away on the other side of the Hemet Hills. One pair, RIV-BUO-005 was identified in MSHCP Criteria Cell 3683. As shown in Table 4-10 above, RIV-BUO-005 fledged three young in 2006; RIV-BUO-006 fledged 2 young in 2005 and 5 young in 2006; RIV-BUO-052 fledged 5 young in 2006 (RCTC, 2007b).

The size of suitable foraging areas for burrowing owls within the study area has been estimated based upon relevant literature and studies in similar habitat types. Home range estimates, including foraging habitat, for burrowing owls based on radio tracking, range from 49.8 ha (123.1 acres) (95% adaptive kernel home range mean) in a heavily cultivated region of southern Saskatchewan (Sissons et al. 2001), to 184.5 ha (455.9 acres) (95% adaptive kernel home range mean) in a heavily irrigated agricultural matrix in the Imperial Valley, California (Rosenberg and Haley 2004), to 241 ha (595.5 acres) in pasture habitat in Saskatchewan (Haug and Oliphant 1990). In addition, home range estimates of burrowing owls found in grassy areas surrounded by intense agricultural land use in the San Joaquin Valley, California ranged from 98 to 139 ha (242 to 343 acres) (95% fixed kernel home range mean) (Gervais et al. 2003).

In addition to home range estimates, several studies have documented that the majority of foraging and movement primarily occurs within 600 m (0.4 miles) of the nest burrow (Haug and Oliphant 1990, Gervais et al. 2003, Rosenberg and Haley 2004, CDFG 2012). Therefore, based on a circle with a 600-meter radius, the majority of foraging occurs within approximately 300 acres during the breeding season (CDFG 2012). Hennings (1970) reported that owls range at least 1 km (0.6 mi) from their burrows in California. Observations of burrowing owls in the study area followed a similar pattern³. During a nighttime survey conducted in 2006, owls were observed foraging and hunting along a dirt road and in the alkali grasslands located north of Stetson Road and west of Warren Avenue. Based on color-band resights, some of the individuals were juvenile owls from RIV-BUO-009, located approximately 1.3 km (0.8 mi) away. The nighttime foraging location (RIV-BUO-FOR-

³ Although no attempt was made to fully quantify territory size or foraging range, one night survey took place in 2006 to locate foraging areas.

001) is shown in Figures 4.2-0, Burrowing Owl Territory Locations, Overview, and Figure 4.2-6, 2005 and 2006 Burrowing Owl Territories of the focused survey report (Appendix A-5). Given the variation of home range estimates, foraging studies in similar rural-agricultural settings, and field observations from 2005-2006, it is estimated that burrowing owls within the study area may forage within an area roughly 280 acres in size.

4.3.3.3 Determination of Biologically Equivalent or Superior Preservation for Burrowing Owl

Per burrowing owl Species Objective 5, for sites outside of the Criteria Area that support three or more pairs of burrowing owls, support greater than 35 acres of suitable habitat, and are noncontiguous with MSHCP Conservation Area lands, at least 90% of the area with long-term conservation value and burrowing owl pairs will be conserved on site. A DBESP is required for impacts to burrowing owls when it is not feasible to avoid and conserve 90% of the portions of the project area that provide long-term conservation value for burrowing owls. Alternatively, for a site that is contiguous with a Criteria Area that supports less than 35 acres of suitable habitat, and for which surveys reveal that fewer than three pairs of owls are on the site and surrounding areas, then passive or active relocation is possible.

This DBESP has been prepared to ensure replacement of lost functions and values of burrowing owl habitat resulting from unavoidable Project-related impacts. As stated above in Section 4.3.3.2, the Project would directly impact one pair of owls (RIV-BUO-023) and its associated habitat (approximately 280 acres) in Roadway Segment C.

In addition, four pairs of owls may be indirectly impacted. Of these four pairs, the Project may indirectly impact another pair owls (RIV-BUO-024) and associated habitat in Roadway Segment C and an additional 3 pairs of owls (RIV-BUO-005, RIV-BUO-006, RIV-BUO-052) and their associated habitat, located in a different segment of the Project alignment, northeast of the Hemet Hills, in Roadway Segment G (Table 4-10). Of these owls that may be indirectly impacted, two pairs are located outside of the Criteria Area, and one pair is located within Criteria Cell 3683.

Given the length of time between Project construction and the date when the burrowing owls were observed, these territories may or may not persist or be located in the same location at the start of construction. Although 1 pair of owls may be directly impacted and is below the 3 pair threshold from Species Objective 5, RIV-BUO-023 may forage within approximately 280 acres, which is greater than the 35-acre threshold that would trigger the 90% conservation requirement. However, as a transportation project, the Project would not be able to conserve 90% of the area with long-term conservation value due to the fact that the roadway already accounts for over 90% of the right-of-way. Therefore, more appropriate is the provision from the Species Objective 5 to conduct passive or active relocation. Given the length of time until the Project will actually disturb burrowing owl habitats, and given the transitory nature of burrowing owls and their tendency to colonize areas that may not have been colonized before, there is a probability that burrowing owls could be located within the PIA in the future. In order to address this, RCTC will conduct preconstruction surveys

(also known as Take Avoidance Surveys in the 2012 CDFW guidance) at least 30 days [and no less than 14 days per CDFW (2012)] prior to ground disturbing activities in order to identify any owls that may have colonized suitable habitat areas. The relocation measures outlined below will be employed should any owls be found that require relocation.

Direct and indirect effects to burrowing owls and habitat will be avoided and/or minimized by incorporating the following measures into the Project:

- Preconstruction presence/absence surveys will be conducted for burrowing owls within suitable habitat in each year of construction, during the Spring, immediately prior to ground disturbance and construction activities to avoid take of burrowing owls and occupied nests. Surveys will be conducted within the permanent impact area (PIA) and 75-m (225-ft) buffer or additional areas based on construction and operations noise impacts, if warranted.
- In case burrowing owls are identified during the preconstruction surveys and cannot be avoided, a burrowing owl relocation/translocation plan, as described below, will be prepared for submittal to the wildlife agencies for approval 60–90 days prior to ground-disturbing activities. All burrowing owls found in the PIA will be actively relocated away from the Project to translocation sites. Burrowing owls found 75 m (225 ft) or less from the PIA will be considered for relocation based on the adjacent construction activities and consultation with the wildlife agencies. Burrowing owls found more than 75 m (225 ft) from the PIA will only be considered for relocation if the wildlife agencies deem appropriate based on construction noise impacts.
- For burrowing owls found 75 m (225 ft) or less from the PIA that are not relocated, impacts may be lessened by the following minimization measures: use of disturbance buffers, visual screening, and marking off nests to avoidance accidental disturbance.
- Indirect impacts associated with the degradation of habitat and increased light and glare will be minimized by regular roadside maintenance to remove litter and weeds from the Project right-of-way, and by incorporating shielded lighting near environmentally sensitive areas.

Assessment of Proposed Mitigation Sites

In addition to the above mentioned avoidance and minimization measures, suitable burrowing owl habitat will be conserved as part of the mitigation strategy presented in Section 4.1.1.3. The majority of burrowing owls detected during the focused surveys were located in the central portion of the Project within the immediate vicinity of and in the surrounding areas of the mitigation sites. The following text describes burrowing owl habitat in each mitigation site as it relates to burrowing owl conservation.

Mitigation Site 1

This site is located on the eastern side of MSHCP criteria cell 3887 and includes a total of approximately 60 acres, including upland habitat suitable for burrowing owls. In addition to the riparian/riverine resources described in Section 4.1.1.3, the site consists of alkali grassland, annual

grassland, and annual grassland/Riversidian sage scrub with the potential to support burrowing owls. The site includes 2.5 acres of vernal pools; however, the vernal pool habitat would still be expected to support foraging owls during the dry season and in years when the pools do not pond. Although a small portion of the site includes the base of the West Hemet Hills which is too steep to support burrowing owls, the large majority of habitat is excellent quality that is either flat or gently sloping, consists of low-growing vegetation, and is contiguous with excellent quality burrowing owl habitat to the north and east (on the other side of California Avenue in Mitigation Site 2). Burrowing owl habitat that will be conserved as part of the riparian/riverine mitigation is listed in Table 4-5.

Mitigation Site 2

Mitigation site 2 totals over 95 acres and is located in MSHCP criteria cell 3891, across from the Stowe vernal pool complex. In addition to the riparian/riverine resources described in Section 4.1.1.3, this site contains alkali grassland, alkali playa, and annual grassland habitat suitable for burrowing owls. Although this site contains 1.16 acres of vernal pools and 1.85 acres of seasonal wetlands, the vernal pool habitat would still be expected to support foraging owls during the dry season and in years when the pools do not pond. The entire site consists of excellent quality burrowing owl habitat that is flat, generally consists of low-growing vegetation, and is contiguous with excellent quality burrowing owl habitat on all four sides, including habitat in adjacent mitigation sites 2, 3 and 5. Burrowing owl habitat that will be conserved as part of the riparian/riverine mitigation is listed in Table 4-5.

Mitigation Site 3

This approximately 32-acre mitigation site is located in MSHCP criteria cell 3791. In addition to the riparian/riverine resources described in Section 4.1.1.3, this site contains alkali grassland, alkali playa, and annual grassland habitat suitable for burrowing owls. Although this site contains 4.65 acres of vernal pools, the vernal pool habitat would still be expected to support foraging owls during the dry season and in years when the pools do not pond. The entire site consists of excellent quality burrowing owl habitat that is flat, generally consists of low-growing vegetation, and is contiguous with excellent quality burrowing owl habitat on all four sides, including habitat in adjacent mitigation sites 2, 4 and 5 in addition to the MWD Preserve to the north. Burrowing owl habitat that will be conserved as part of the riparian/riverine mitigation is listed in Table 4-5.

Mitigation Site 4

Mitigation site 4 is located in MSHCP criteria cells 3684 and 3792, immediately adjacent to the MWD and RCA preserves and the total acreage of this parcel is approximately 21 acres. In addition to the riparian/riverine resources described in Section 4.1.1.3, this site contains alkali grassland, alkali playa, and annual grassland habitat suitable for burrowing owls. Although this site contains 3.39 acres of vernal pool habitat, as well as a constructed pond, the vernal pool habitat within mitigation site 4 would still be expected to support foraging owls during the dry season and in years when the pools do not pond. The southern portion of the site consists of excellent quality burrowing owl habitat while the northern portion of the site consists of habitat still suitable for burrowing owls however due to

land management practices was not considered to be excellent quality. The habitat in mitigation site 4 is flat, consists of low-growing vegetation, and is contiguous with excellent quality burrowing owl habitat to the south, west, and east including habitat in adjacent mitigation sites 4 and 5 in addition to the MWD Preserve to the west and an area described for conservation to the northwest. Burrowing owls from a territory approximately 1.3 km (0.8 mi) to the south were observed foraging in these fields during a nighttime survey in 2006. Burrowing owl habitat that will be conserved as part of the riparian/riverine mitigation is listed in Table 4-5.

Mitigation Site 5

Mitigation site 5 is also located in MSHCP criteria cell 3792, immediately adjacent to existing RCA conserved lands and the total acreage of this site is over 33 acres. The majority of mitigation site 5 contains alkali grassland, alkali playa, and annual grassland that could support burrowing owls. Although this site contains 6.9 acres of vernal pools, the vernal pool habitat within mitigation site 5 would still be expected to support foraging owls during the dry season and in years when the pools do not pond. The entire site is excellent quality burrowing owl habitat that is flat, consists of low-growing vegetation, and is contiguous with excellent quality burrowing owl habitat to the north, west, and east including habitat in adjacent mitigation sites 2, 3, and 4 in addition to existing RCA conserved lands to the east. Burrowing owls from a territory approximately 0.5 km (0.3 mi) to the south were observed foraging in these fields during a nighttime survey in 2006. Burrowing owl habitat that will be conserved as part of the riparian/riverine mitigation is listed in Table 4-5.

Burrowing Owl Relocation Plan

The purpose of this Burrowing Owl Relocation Plan (Relocation Plan) is to outline an effective strategy for implementing an active burrowing owl relocation effort to mitigate for owl displacement and loss of habitat due to the proposed Project. Active relocation involves capturing owls from the original burrow scheduled to be destroyed by construction activity, taking them to a new site well removed from the original site, and releasing them into a new burrow (Trulio 1995; Smith and Belthoff 2001). Owls will be relocated to protected lands with long-term conservation assurances. The relocation effort will be conducted outside of the burrowing owl nesting season. The relocation may include actively removing a single adult or an owl pair. The Relocation Plan describes the methodology for active relocation of burrowing owls from the PIA, a monitoring strategy, and long-term conservation of relocated owls. The relocation effort will be conducted in consultation and coordination with the RCA and the wildlife agencies and will be done in accordance with the most recent guidance at that time.

Given the large size and linear nature of the construction area, active relocation is preferable to passive relocation. The large-scale construction effort as well as the phased approach to construction would increase the likelihood of an evicted owl moving into an area of the Project where construction has yet to occur, therefore resulting in multiple evictions. In order to avoid multiple evictions the primary approach to mitigate for displaced owls will be to actively relocate them to protected lands agreed upon in consultation and coordination with the RCA and the wildlife agencies. However, if it

is determined following presence/absence surveys, that passive relocation at certain sites may be more successful than active relocation, then passive relocation may be conducted in consultation and coordination with the RCA and the wildlife agencies and will be done in accordance with the most current guidance available at that time. A qualified avian biologist will either currently have or obtain a Federal Bird Banding and Marking Permit, which is administered by the U.S. Geological Survey Bird Banding Laboratory, a Scientific Collecting Permit from the CDFW, and a Memorandum of Understanding or other additional written authorization from the CDFW.

There are seven burrowing owl species conservation objectives in the MSHCP (Volume I, section 6.3.2; Volume I, Appendix E, Summary of Species Survey Requirements; Volume I, Table 9-2 Species Conservation Summary; and Volume II, section B, MSHCP Species Accounts). The Relocation Plan addresses MSHCP Objectives 2, 5, 6, and 7:

- Objective 2: Establishes five Core Areas and interconnecting linkages for conservation to support a combined total breeding population of approximately 120 burrowing owls with no fewer than 5 pairs in any one Core Area. The five Core Areas are Lake Skinner/Diamond Valley Lake, playa west of Hemet, San Jacinto Wildlife Area/Mystic Lake area including Lake Perris, Lake Mathews, and along the Santa Ana River.
- Objective 5: Requires protocol surveys for burrowing owls as part of the project review process and conservation of owls located as a result of surveys. Conservation of owls within the Criteria Area includes at least 90% of the area with long-term conservation value included in the MSHCP Conservation Area. Conservation of owls not within the Criteria Area includes:
 - If the site contains, or is part of an area supporting less than 35 acres of suitable habitat or the survey reveals that the site and the surrounding area supports fewer than three pairs of burrowing owls, then the on-site burrowing owls will be passively or actively relocated following accepted protocols.
 - If the site (including adjacent areas) supports three or more pairs of burrowing owls, greater than 35 acres of suitable habitat and is noncontiguous with MSHCP Conservation Area lands, at least 90% of the area with long-term conservation value and burrowing owl pairs will be conserved on site.
- Objective 6: Requires preconstruction presence/absence surveys for burrowing owl within the survey area where suitable habitat is present. Surveys are conducted within 30 days prior to disturbance and take of active nests is avoided. Passive relocation (use of one way doors and collapse of burrows) is to occur when owls are present outside the nesting season.
- Objective 7: Creates translocation sites in the MSHCP Conservation Area for the establishment of new burrowing owl colonies. Translocation sites are identified, taking into consideration unoccupied habitat areas, presence of burrowing mammals to provide suitable burrow sites, existing colonies and effects to other Covered Species.

Active Relocation

Prior to ground disturbance and any other construction activity, presence/absence surveys will be conducted for burrowing owls within suitable habitat in each year of construction, during the Spring, to avoid take of burrowing owls and occupied nests. Surveys will be conducted within the permanent impact area (PIA) and 75-m (225-ft) buffer or additional areas based on construction and operations noise impacts, if warranted.

As stated above, active relocation involves capturing owls from the original burrow scheduled to be destroyed by construction activity, taking them to a new site well removed from the original site, and releasing them into a new burrow (Trulio 1995; Smith and Belthoff 2001). The owls will be captured, banded, transported to the relocation site, and placed within an artificial burrow complex (two to four artificial burrows). The owls will be temporarily housed in a field enclosure (hacking cage or aviary) placed over the newly installed artificial nest box complexes prior to release into the new burrow (Trulio 1995; Mitchell et al. 2011; Smith and Belthoff 2001).

The relocated owls will be held in the primary artificial nest burrow for 24 hours by blocking the entrances to the burrow (Mitchell et al. 2011). After the entrances are unblocked, the owls will remain in the predator-proof hacking cage surrounding the relocation burrow for approximately 30 days. The owls will be captured and moved during the non-breeding season or early in the breeding season but just prior to egg-laying (i.e., late January or early February). The owls will be held in the hacking cages until eggs are laid and the clutch is mostly complete (up to 30 days, depending on breeding phenology). Cage enclosures will be dismantled and completely removed from the relocation site once clutches are complete and the female is incubating eggs.

The hacking cage will be constructed approximately 1 week prior to placement of the owls in the enclosure (Mitchell et al. 2011). The hacking cage will be a 3.7 × 3.7 × 1.8-meter (12 × 12 × 6-foot) enclosure constructed with a wooden frame, using twelve 1.8 × 1.2-meter (6 × 4 foot) panels, heavy-gauge steel-mesh side panels, and a strong nylon mesh (2.5 × 2.5-centimeter (1 × 1-inch) covering (Kidd Biological Inc. 2013). The enclosure will also have a welded-mesh bottom extending outward from the enclosure side panels approximately 1 meter (3 ft). Electric fencing, set back approximately 1 meter (3 ft) from the enclosure may be used to provide additional protection (Kidd Biological Inc. 2013; Mitchell et al. 2011).

Enough food and water to support the metabolic function of each owl will be left inside the artificial burrow every day for the duration of the pre-release holding cage is in use (Nixon 2006; Kidd Biological Inc. 2013). Daily supplemental feedings will include two dead mice per owl during the captivity period only. Supplemental food will be placed well inside the burrow tunnel to avoid attracting predators such as common ravens (Wildlife Preservation Canada 2013). Once the cage enclosures are removed, supplemental feeding will end.

Capture and Banding

The burrowing owls will be banded for purposes of identification and monitoring. Burrowing owls will be captured at least 1 week prior to active relocation activities. To capture adult and juvenile owls, biologists will use one or more methods as described in Rosenberg and Haley (2007), Conway et al. (2010), and Bloom et al. (2007), including two-way burrow traps, spring nets (modified bow net baited with a caged mouse), tomahawk traps, bal-chatri traps, and noose carpets.

Owls will be banded with either a non-locking or locking USFWS aluminum band (Number 4), and an alphanumeric aluminum color band (Acraft Sign and Nameplate Co., Ltd., Edmonton, Alberta, Canada) or similar alphanumeric color band style. Biologists will collect demographic and morphological data including gender, mass, wing cord length, tarsus length, and tail length. A capture data form will be completed and submitted as part of the reporting requirements. Owls intended for active relocation will be placed into a secure animal carrier and transported immediately to the release site.

Selected Relocation Site

Any active relocation site will be selected and finalized in consultation with the RCA and the wildlife agencies. The specific location of the burrow site will take into consideration vegetation structure, prevalence of burrowing owl predators, prey base, number and location of existing burrowing owls, existence of ground squirrels or other burrowing mammals, and edge effects.

RCTC shall purchase land within and/or adjacent to established Core Reserves with suitable burrowing owl habitat that will serve as translocation sites. Potential translocation sites would be located within a permanent conservation easement or within an established reserve. Potential sites include the San Jacinto Wildlife Area, Southwestern Riverside County Multi-Species Reserve (Diamond Valley and Lake Skinner) [Reserve], Potrero Reserve, and Johnson Ranch (Figure 4.3-3).

Monitoring

Monitoring will be conducted prior to, during, and after active relocation efforts. Owls will be monitored after release during the season of relocation and for a minimum of 1 year through to the following breeding season. Site occupancy, dispersal movements, reproductive success, and survival, including predation events, will be recorded. Monitoring will include routine nest burrow site visits, documenting burrow status and characteristics, resighting owl bands, and estimating reproductive success and survival.

The original nest or burrow site where owls were excluded or taken from and the newly installed artificial burrows intended to receive owls will be monitored using burrow site visits three times per week for the first 2 weeks following relocation. After the first 2 weeks after release, owls will be monitored one to two times per week through the duration of the breeding season for use of the new burrows until the next breeding season. Monitoring during the non-breeding season (September 1 to January 31) will be conducted a minimum of two times per month. Burrow visits and observations will be conducted within 3 hours of sunrise or sunset when owls are more likely to be active and

present at the burrow. Band resighting will be conducted using a spotting scope and binoculars from a vehicle or on foot approximately 50–100 m (164–328 ft) from the burrow. Data will be collected using methods and protocols consistent with ongoing monitoring being conducted by the MSHCP Biological Monitoring Program.

Prior to active relocation, monitoring will be conducted at the original burrow site 2 weeks prior to relocation, three times per week, to determine the breeding status of owls and the timing for owl capture and banding. Monitoring will include behavioral observations (e.g., copulations, prey deliveries, or infrequent observation of the female, which can indicate incubation); inspecting the burrow entrance for signs of activity, including nest adornments (e.g., prey remains, mammal scat, man-made materials); and potentially, interior burrow inspection using an infrared video scope.

While actively relocated owls are in the release enclosures, monitoring will occur concurrently with daily supplemental feeding. Feeding and monitoring will be conducted during the morning or late afternoon/early evening whenever possible. Disturbance will be minimized by reducing the amount of time spent in or near the enclosure. During each monitoring visit, the release enclosure will be inspected for problems or needed repairs. Owl health, behavior, evidence of trespassers and the presence/absence of predators will be noted.

Habitat and Artificial Burrow Maintenance

Habitat and artificial nest burrow management activities will be conducted at least once annually to maintain conditions that support owls. Also, prior to relocation, habitat immediately surrounding the artificial nest boxes and in the general vicinity of the owls' foraging area will be maintained to create conditions suitable for owls. Habitat at relocation sites will be maintained to provide sparse, short vegetation (≤ 10 cm (4 inches) in height), low shrub density (less than 30% shrub cover), a minimum of one perch near the nest/roost burrow, and multiple available burrows (approximately four burrows per owl; Wild at Heart 2012) within 50 m (164 ft) of the primary burrow. Management activities may include mowing, grazing, or invasive weed removal (e.g., handpulling).

Rodent control programs and the use of pesticides and insecticides will not be permitted within the owl conservation lands. Artificial nest burrows will require monitoring and maintenance indefinitely. Artificial nest boxes will be checked for structural integrity, plugged or filled entrances and/or tunnels, intact perches, and sufficient dirt covering the nest chamber and tunnels.

Nest box repairs and debris clearing will be conducted as needed. Other management activities at burrowing owl relocation sites will include limiting access to sites by visitors, installing educational signage, and control of off-road vehicles and unleashed pets, as applicable.

Reporting and Deliverables

All data will be recorded in the field and then entered into a database. Data will be checked for quality assurances during field efforts and after entry into the database before submittal to the RCA and the wildlife agencies. The database will contain all information including: results of

presence/absence surveys, nest/burrow locations, locations owls were moved to, capture and banding data, date and time actively relocated owls were released into field enclosures, date field enclosures were removed, nest burrow monitoring visits, burrow habitat characteristics, reproductive success information from nest visits, artificial nest burrow installation and maintenance activities and outcomes, habitat management activities and outcomes, and results of burrow inspections using the infrared video scope.

Data including the database, copies of original data forms, GPS coordinates of burrow and owl locations, and maps will be submitted to the RCA and the wildlife agencies via mail, email, CD/DVD, online File Transfer Protocol (FTP), or file hosting service (e.g., Dropbox Inc. 2008; <https://www.dropbox.com/>).

Reporting will include weekly progress reports; monthly updates; letter reports submitted 2 weeks after completion of site preparation, the relocation effort, and post-release (active); and a final end-of-project report. The final end-of-project report will be submitted after completion of the full relocation project, on a mutually agreed upon date. Any concerns, issues, or problems that arise during any phase of the relocation effort will be reported to the RCA and the wildlife agencies within 24 hours.

With the above measures incorporated, *the Project will provide equivalent and superior mitigation to burrowing owls that may be impacted by the Project.*

4.3.4 Mammals (Los Angeles Pocket Mouse, San Bernardino Kangaroo Rat, Aguanga Kangaroo Rat)

This section describes methods and results of small mammal surveys within the Study Area of Build Alternative 1br. Figure 6-5 of the MSHCP identifies survey areas for small mammal species, which includes Aguanga Kangaroo Rat, San Bernardino Kangaroo Rat (SBKR), and Los Angeles Pocket Mouse (LAPM). The survey report is included as Appendix A-6, Final Sensitive Small Mammal Focused Survey Report.

Although surveys were conducted for Aguanga kangaroo rat (*Dipodomys merriami collinus*), also known as the Earthquake Merriam's kangaroo rat, concurrently with the SBKR (*Dipodomys merriami parvus*) and LAPM (*Perognathus longimembris longimembris*) surveys according to the survey protocols described below, the Aguanga kangaroo rat is not expected to occur within the Study Area or Project vicinity. Because the Aguanga kangaroo rat was not detected and is not expected to occur within the Study Area, this species is not discussed further.

4.3.4.1 Methodology

The small mammal surveys followed the requirements of the MSHCP survey protocols for LAPM and SBKR, as well as the survey protocols developed by CDFW and USFWS. The surveys also satisfied CEQA and NEPA requirements.

Habitat Assessment

Prior to field surveys, CNDDDB, USFWS, museum, and professional and personal records were reviewed for previous documentation of Los Angeles pocket mouse and San Bernardino kangaroo rat captures in the Project area.

Habitat assessments for Los Angeles pocket mouse and San Bernardino kangaroo rat involved systematic surveys on foot. Suitable habitat includes Riversidian sage scrub, coastal sage scrub, Riversidian alluvial fan sage scrub, desert scrub, chaparral, grassland, and/or playas that support sandy or otherwise granular soils. These species are usually (but not always) found in or adjacent to sandy washes or areas of windblown sand. Surveys consisted of examining suitable habitat areas for burrows, scat, and tracks.

Because of the rarity of these two species and the potential for indirect and habitat fragmentation impacts because of the Project, surveys for Los Angeles pocket mouse and San Bernardino kangaroo rat were conducted well beyond the Project study area, up to 1.6 km (1 mi) from the PIA. In addition, intensive evaluation and habitat assessment surveys were conducted in areas identified by the MSHCP as having high potential for Los Angeles pocket mouse and San Bernardino kangaroo rat. Once suitable habitat was identified, live-trapping took place to confirm the presence or absence of Los Angeles pocket mouse and San Bernardino kangaroo rat.

Live-Trapping

Live-trapping was conducted when the target species was most likely to be active aboveground. For Los Angeles pocket mouse, this is generally between April 15 and October 15. There is no defined trapping period for San Bernardino kangaroo rat. Traps were placed in areas that best typified suitable habitat. Live-trapping was conducted by qualified biologists (authorized under existing permits) for five consecutive nights or until target species were captured. Traps were set at dusk and checked twice each night, once about midnight and again at sunrise. Traps were closed during the day. To ensure the well-being of captured animals, trapping was conducted in mild weather conditions (relatively dry and calm, with a minimum nighttime temperature of 50 degrees Fahrenheit [°F]). Target species were held only long enough to identify their species, sex, age-class, reproductive conditions, and weight. All captured animals (target and nontarget) were released unharmed at the trap site.

Traps were set between August 22, 2005, and September 30, 2005, and between April 6, 2006, and June 24, 2006, in areas that exhibited varying potential for Los Angeles pocket mouse (see the Final Sensitive Wildlife Focused Survey Report for mapped locations of all trap lines). Although traps were set throughout the proposed Project in potentially suitable habitats, most of the trap lines were in the northern portion, near the MSHCP focused survey area for Los Angeles pocket mouse.

4.3.4.2 Results/Impacts

Surveys were performed for the San Bernardino kangaroo rat in marginally suitable habitat in the study area; however, none were found. No impact to SBKR is expected.

LAPM were found in the northern end of the PIA within Roadway Segment N; however, this area is outside of the MSHCP Mammal Survey Area (Figure 4.3-4). Therefore, no additional analysis per the MSHCP is required.

4.3.4.3 Determination of Biologically Equivalent or Superior Preservation

Section 6.3.2 of the MSHCP requires a DBESP when a project cannot conserve/avoid 90% of the area determined to have long-term conservation value. The DBESP shall provide equivalent or superior mitigation to the resources being impacted by the project, compared to the impacts. Although the Project would impact occupied LAPM habitat, the occupied LAPM habitat is outside of the MSHCP Mammal Survey Area, and therefore does not have long term conservation value. A DBESP is not required.

4.4 Section 6.1.4 Compliance – Urban – Wildlands Interface Guidelines

Section 6.1.4 of the MSHCP contains the urban/wildlands interface policy and provides guidelines intended to address indirect effects associated with development near the MSHCP Conservation Area (RCIP 2003). These guidelines will be followed for the Project as stated below.

4.4.1 Drainage

The MSHCP requires proposed developments near the MSHCP Conservation Area to incorporate measures, including those identified in a National Pollutant Discharge Elimination System (NPDES) permit, to ensure that the quantity and quality of runoff discharged to the MSHCP Conservation Area is not altered in an adverse way when compared to existing conditions. In particular, measures shall be put in place to avoid discharge of untreated surface runoff from developed and paved areas into the MSHCP Conservation Area.

To comply with this requirement, the Project would incorporate the following measures:

- Landscaping plans for the Project will include native seed for erosion control in areas near the MSHCP Conservation Area.
- Equipment storage, fueling, and staging areas will be situated in nonsensitive upland habitats that offer minimal risk of direct discharge into riparian areas or other sensitive habitats.
- Onsite and offsite drainage facilities will be constructed within the Project ROW to ensure the quantity and quality of runoff discharged to the MSHCP Conservation Area is maintained with existing conditions. Drainage pipelines, inlets, and outlets will ensure proper drainage for the Project by directing onsite storm water flows to a treatment Best Management Practices (BMP) facility and ultimately to a flood control facility (Hemet Channel or Salt Creek Channel). Culverts will maintain existing offsite flows by allowing storm water to pass beneath the Project from one side of the roadway to another. Roadside ditches will redirect storm water away from

the realigned SR 79. Roadside ditches will ultimately connect to existing flood control facilities (Hemet Channel or Salt Creek Channel) and surface waterways. Onsite and offsite drainage facilities will be constructed within the Project ROW.

- A National Pollutant Discharge Elimination System permit will be obtained to ensure surface runoff from the roadway is treated appropriately.
- Treatment BMPs will be implemented where there is adequate ROW to treat roadway runoff. The types of treatment BMPs proposed for the Project are infiltration and detention basins, Austin sand filters, and biofiltration swales. The specific type and location of treatment BMPs to be implemented will depend on site-specific conditions and will be determined during final design.
- Regular maintenance of constructed storm water systems will take place to ensure effective operations of these systems.

4.4.2 Toxics

The MSHCP requires land uses proposed near the MSHCP Conservation Area that use chemicals or generate bioproducts, such as manure, that are potentially toxic or may adversely affect wildlife species, habitat, or water quality to incorporate measures to ensure that application of such chemicals does not result in discharge to the MSHCP Conservation Area. Measures such as those employed to address drainage issues shall be implemented. The following measures will therefore be incorporated into the Project.

- All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances will occur only in designated areas within the grading limits of the Project. These designated areas will be clearly marked and located in such a manner as to contain runoff.
- Toxic runoff will be contained with storm water management systems to avoid discharge into the MSHCP Conservation Area.
- Only legal herbicides applied by State of California licensed applicators will be used during roadway operations and maintenance, according to all state and federal regulations.

4.4.3 Lighting

Night lighting shall be directed away from the MSHCP Conservation Area to protect species within the MSHCP Conservation Area from direct night lighting. Shielding shall be incorporated in Project designs to ensure ambient lighting in the MSHCP Conservation Area is not increased.

4.4.4 Noise

Proposed noise-generating land uses affecting the MSHCP Conservation Area shall incorporate setbacks, berms, or walls to minimize the effects of noise on MSHCP Conservation Area resources pursuant to applicable rules, regulations, and guidelines related to land use noise standards. For

planning purposes, wildlife within the MSHCP Conservation Area should not be subjected to noise that would exceed residential noise standards.

4.4.5 Invasives

When approving landscape plans for development that is proposed adjacent to the MSHCP Conservation Area, Permittees shall consider the invasive, non-native plant species listed in Table 6-2 of the MSHCP and shall require revisions to landscape plans (subject to the limitations of their jurisdiction) to avoid the use of invasive species for the portions of development that are adjacent to the MSHCP Conservation Area. Considerations in reviewing the applicability of this list shall include proximity of planting areas to the MSHCP Conservation Areas, species considered in the planting plans, resources being protected within the MSHCP Conservation Area and their relative sensitivity to invasion, and barriers to plant and seed dispersal (such as walls, topography, and other features).

- The landscaping plans will avoid the use of invasive and non-native plants listed in MSHCP Table 6-2, Plants that Should be Avoided Adjacent to the MSHCP Conservation Area, where applicable.

4.4.6 Barriers

Proposed land uses adjacent to the MSHCP Conservation Area shall incorporate barriers, where appropriate, in individual Project designs to minimize unauthorized public access, domestic animal predation, illegal trespassing, and dumping in the MSHCP Conservation Area. Such barriers may include native landscaping, rocks/boulders, fencing, walls, signage, and/or other appropriate mechanisms.

- The Project will incorporate fencing along the ROW to serve as a barrier to preclude public access to the MSHCP Conservation Area.

4.4.7 Grading/Land Development

Manufactured slopes associated with proposed site development shall not extend into the MSHCP Conservation Area.

- All slopes will be constructed within the proposed ROW and will not extend into the MSHCP Conservation Area.

4.5 Section 7.5.1 and 7.5.2 Compliance

Section 7.5.1 of the MSHCP provides guidelines for planned roadways to minimize impacts to sensitive species and habitats known to occur in the vicinity of the planned roadway. Section 7.5.2 of the MSHCP provides guidelines on the construction of wildlife crossings for roads that could present an impediment to wildlife movement. Guidelines are to be applied where wildlife movement is

known to exist or in portions of the Criteria Area that have been assembled to provide wildlife movement. This section describes Project compliance with the criteria set forth in Section 7.5.1 and 7.5.2 of the MSHCP.

4.5.1 Section 7.5.1 – Guidelines for the Siting and Design of Planned Roads Within the Criteria Area and Public/Quasi-Public Lands

Table 4-11 outlines how the Project will comply with the siting and design criteria in the MSHCP. Figures 4.5-1 a through m show all of the Build Alternatives in relation to MSHCP resources in order to demonstrate that Build Alternative 1br is in the least environmentally sensitive location. For additional text describing the reduction of impacts that would occur as a result of Build Alternative 1br, please refer to Section 3.3 Avoidance of Impacts.

Table 4-11. MSHCP Section 7.5.1 Consistency for Project

Excerpt from Section 7.5.1 of MSHCP	SR 79 Project Compliance
Planned roads will be located in the least environmentally sensitive location Feasible	The project is located in the least environmentally sensitive location
Planned roads will avoid, to the greatest extent Feasible, impacts to Covered Species and wetlands.	The Project has been designed to avoid Covered Species and wetlands to the greatest extent practical. For example, the preferred alignment was shifted to the west to avoid impacts to federally listed vernal pool fairy shrimp located in the pools near Stowe Road and the federally listed plant, San Jacinto Valley Crownscale.
Design of planned roads will consider wildlife movement requirements, as further outlined below under Guidelines for Conservation of Wildlife Corridors.	Wildlife movement considerations have been taken into consideration and demonstrated by the numerous culverts/undercrossings and bridges as documented on Pages 3-499 to 3-502 of the DEIR/DEIS for the Project. See response below regarding compliance with the Guidelines for Conservation of Wildlife Corridors.
Narrow Endemics Plant Species will be avoided; if avoidance is not Feasible, then mitigation as described in the Narrow Endemics Plant Policy will be implemented.	As addressed in Section 3.3.3 of the DEIR/DEIS, the Project has complied with and conducted analyses as to whether Narrow Endemic Plant Species can be avoided by the Project. The preferred alternative would not impact NEPSSA species.
Any construction, maintenance and operation activities that involve clearing of natural vegetation will be conducted outside the active breeding season (March 1 through June 30).	The Project includes avoidance and minimization measures to avoid nesting birds during breeding seasons.
Prior to design and construction of transportation facilities, biological surveys will be conducted within the study area for the facility including vegetation mapping and species surveys and/or wetland delineations.	Surveys were conducted for the Project, along with biological surveys and vegetation mapping which are included in the 2010 NES and summarized throughout Chapter 4 above. Focused survey reports are included in Appendix A of this document (on CDs).

4.5.2 Section 7.5.2 – Guidelines for Construction of Wildlife Crossings

Build Alternative 1br would cross Existing Constrained Linkage B (Salt Creek) and, therefore, must consider the construction of wildlife crossings. Section 7.5.2 of the MSHCP provides guidelines on the construction of wildlife crossings for roads that could present an impediment to wildlife movement.

Guidelines are to be applied where wildlife movement is known to exist or in portions of the Criteria Area that have been assembled to provide wildlife movement.

Specific Crossing Design

Wildlife crossing designs may be developed in support of avian, large mammalian, small mammalian, reptile, and amphibian, or insect crossings. Crossing designs and considerations include the following.

- **Underpass/Undercrossing** – Any bridge structure under a roadway that may be used by wildlife; large structures would be required to enable crossing by large mammals; smaller undercrossings could be used by medium-sized wildlife.
- **Culvert** – Enclosed concrete or metal structures can enable crossing by medium-sized to small wildlife, including amphibians, reptiles, and some avian species (roadrunners or quail); the length of a culvert can be critical to whether or how much it will be used; for smaller wildlife, barriers could be necessary to direct them to culvert openings, and placement of crossings within the habitat is important.
- **Overpass/Overcrossing** – Any bridge structure over a road or freeway that is intended only for wildlife crossing; overcrossings would usually be naturally vegetated structures so that they look like seamless extensions of habitat to wildlife. The locations and designs of crossing facilities must take key movement routes, natural topography and features, adjacent habitat, and species objectives and constraints into account.

General Considerations

Guidelines for wildlife crossings are provided in the MSHCP. A summary of these general considerations is included below.

- Overall assessment of crossing needs on an entire-road basis
- Spacing and mixture of crossing types
- Walls and features to direct small wildlife toward crossings
- Regular small culvert installation for small wildlife

- Placement at known travel routes or natural pinch points
- Large mammal crossings approximately every mile or small to medium-sized mammal crossings approximately every 305 m (1,000 ft)
- Measures to minimize human disturbance near crossings
- Vegetative or fence windrows to direct insects to crossings
- Size dimensions for large mammal crossings
- Wildlife overpass dimensions
- Wire fencing to guide large wildlife to crossings
- Measures to allow trapped wildlife to escape

The only Planning Species for Existing Constrained Linkage B that is terrestrial and would require movement under the Project would be the Los Angeles pocket mouse. Build Alternative 1br would maintain the existing linkage by creating a bridge over Olive Avenue and Salt Creek Channel with a minimum vertical clearance of 4.57 m (15 ft) and a length of 271 m (890 ft). The bridge would be split into two separate structures approximately 19 m (63 ft) apart with widths of approximately 14 to 32 m (46 to 106 ft) and 15 to 17 m (50 to 56 ft). MSHCP Section 7.5.2 offers an openness ratio (width \times height/length) of 0.6 m as being ideal for mule deer. There are no mule deer that are intended to be Planning Species in Existing Constrained Linkage B of the MSHCP; however, based on this calculation, the bridge over Salt Creek Channel has an openness ratio that ranges from 0.5 to 1.16, which is ample for the Los Angeles pocket mouse. This openness ratio would also be ideal for bobcats and smaller mid-sized mammals should they occur in the area.

Figures 4.5-2 and 4.5-3 show the profile grade, elevation, typical section, and plan for Salt Creek and Hemet Channel Bridges, respectively. Although Hemet Channel is not a designated MSHCP wildlife linkage, the advanced planning study figure has been included because it is one of the major bridges associated with the Project.

In addition to the bridge over Salt Creek Channel, the following measures will be incorporated into the final design:

- Build Alternative 1br will include fencing along the right-of-way to funnel wildlife toward the Salt Creek Channel and minimize impacts associated with wildlife trying to cross the roadway elsewhere. To reduce end-runs around the fence, the wildlife fencing will continue at least 0.8 kilometers (800 m [0.5 mi]) beyond the critical area or to an appropriate location that is unsuitable for wildlife (e.g., structure, steep hillside, urban area). The wildlife fencing will include one-way wildlife doors on the roadway side of the fence, at 1-km (0.62-mi) intervals, to allow trapped wildlife to escape back into the MSHCP Conservation Area.

- Several culverts and bridges to be located in Roadway Segments B, C and N, as shown in Figure 4.5-4, will be used for wildlife movement of a variety of species. Vegetative cover will be placed near the entrances to the culverts to increase their effectiveness for carnivores and smaller wildlife.
- Concrete “K-rail” barriers will be temporary. Openings in concrete “K-rail” barriers will be provided at regular intervals to allow small wildlife to cross or escape roadways. Spacing intervals will not be known until final design, but spacing will take into account known wildlife movement in the vicinity.
- The bridge over Salt Creek Channel will not add artificial lighting to the center of the crossing structure. These devices have not been shown to be effective and could deter wildlife at night. Natural light from skylights or grating may be used in particularly long structures. Tree and shrub buffers around crossing entrances, skylights, and grating will be used for visual relief, protection, and sound attenuation.
- The areas surrounding the bridge at Salt Creek Channel will be vegetated as naturally as possible to blend with the area around the crossing. The use of invasive and non-native plants will be avoided. Use of plants that are poisonous to wildlife, such as oleander, will also be avoided.
- Natural objects, such as stumps, rocks, and other natural debris, will be placed near the bridge at Salt Creek Channel to create cover for wildlife and to encourage use of the crossings.
- Dirt, rock, or concrete benches will be installed on at least one side of the bridge over Salt Creek Channel to allow wildlife to cross during storms.
- Jump-outs and one-way gates will be installed at frequent intervals to allow trapped wildlife to exit the road system safely. Spacing intervals will not be known until final design, but spacing will take into account known wildlife movement in the vicinity.

4.6 Section 7.5.3 and Appendix C of MSHCP Compliance

The following conditions shall be applied to the Project so that impacts are reduced to species as construction occurs. Compliance with these conditions are required by RCTC as a Permittee per the Implementing Agreement Section 13.7 (A).

Section 7.5.3 Provisions:

1. Plans for water pollution and erosion control will be prepared by RCTC. The plans will describe sediment and hazardous materials control, dewatering or diversion structures, fueling and equipment management practices, use of plant material for erosion control.

2. Timing of construction activities will consider seasonal requirements for breeding birds and migratory non-resident species. Habitat clearing will be avoided during species active breeding season defined as March 1 to June 30.
3. Sediment and erosion control measures will be implemented until such time soils are determined to be successfully stabilized.
4. Short-term stream diversions will be accomplished by use of sand bags or other methods that will result in minimal instream impacts. Short-term diversions will consider effects on wildlife.
5. Silt fencing or other sediment trapping materials will be installed at the downstream end of construction activities to minimize the transport of sediments off-site.
6. Settling ponds where sediment is collected will be cleaned in a manner that prevents sediment from re-entering the stream or damaging/disturbing adjacent areas. Sediment from settling ponds will be removed to a location where sediment cannot re-enter the stream or surrounding drainage area. Care will be exercised during removal of silt fencing to minimize release of debris or sediment into streams.
7. No erodible materials will be deposited into water courses. Brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks.
8. The footprint of disturbance will be minimized to the maximum extent feasible. Access to sites will occur on pre-existing access routes to the greatest extent possible.
9. Equipment storage, fueling and staging areas will be sited on non-sensitive upland habitat types with minimal risk of direct discharge into riparian areas or other sensitive habitat types.
10. The limits of disturbance, including the upstream, downstream and lateral extents, will be clearly defined and marked in the field. Monitoring personnel will review the limits of disturbance prior to initiation of construction activities.
11. During construction, the placement of equipment within the stream or on adjacent banks or adjacent upland habitats occupied by Covered Species that are outside of the project footprint will be avoided.
12. Exotic species removed during construction will be properly handled to prevent sprouting or regrowth.
13. Training of construction personnel will be provided.
14. Ongoing monitoring and reporting will occur for the duration of the construction activity to ensure implementation of best management practices.

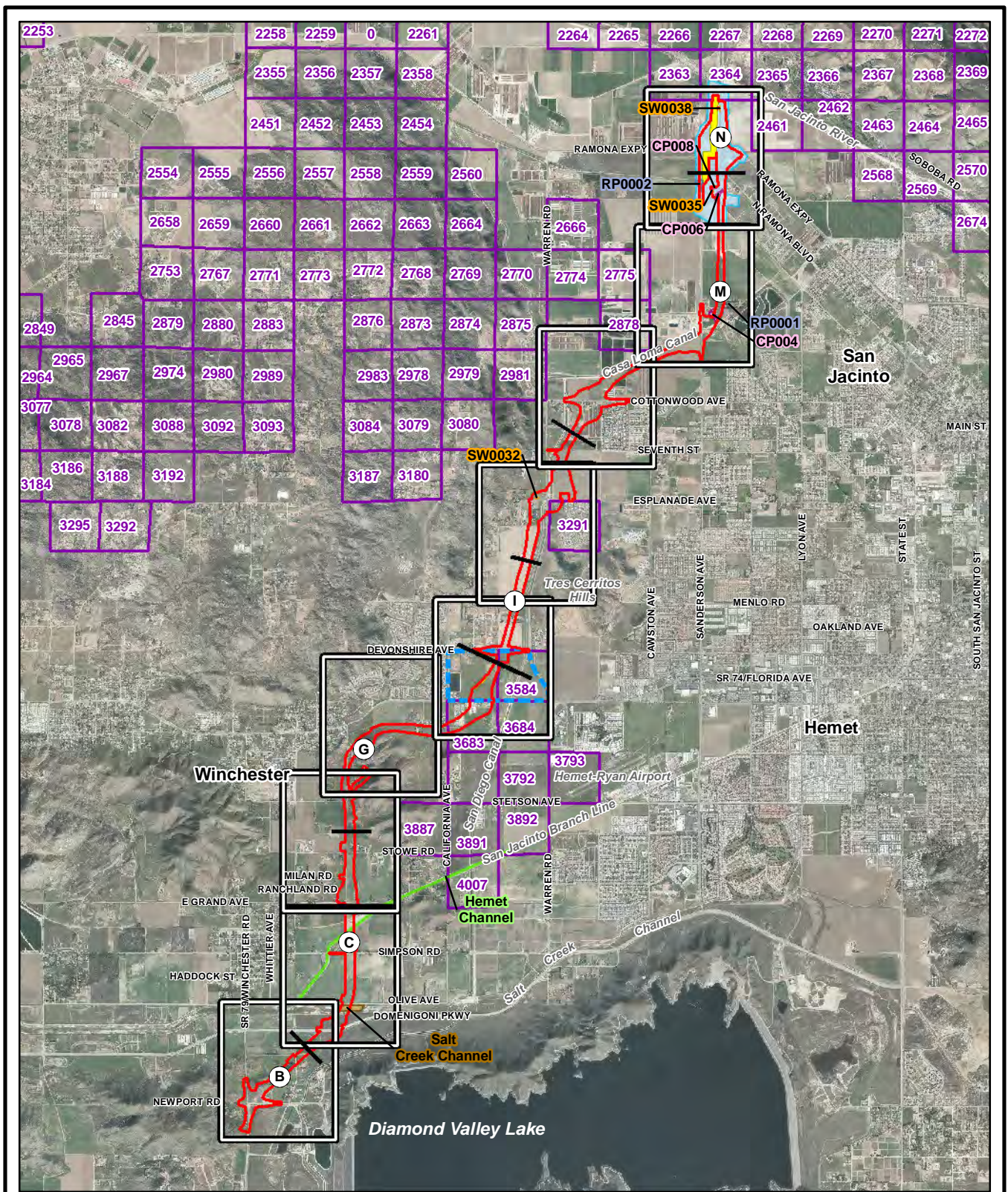
15. When work is conducted during the fire season (as identified by the Riverside County Fire Department) adjacent to coastal sage scrub or chaparral vegetation, appropriate fire-fighting equipment (e.g., extinguishers, shovels, water tankers) shall be available on the site during all phases of project construction to help minimize the chance of human-caused wildfires. Shields, protective mats, and/or other fire preventative methods shall be used during grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventative actions, and responses to fires shall advise contractors regarding fire risk from all construction-related activities.
16. Active construction areas shall be watered regularly to control dust and minimize impacts to adjacent vegetation.
17. All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances shall occur only in designated areas within the proposed grading limits of the project site. These designated areas shall be clearly marked and located in such a manner as to contain run-off.
18. Waste, dirt, rubble, or trash shall not be deposited in the Conservation Area or on native habitat.

Appendix C Provisions:

1. A qualified biologist shall conduct a training session for project personnel prior to grading. The training shall include a description of the species of concern and its habitats, the general provisions of the Endangered Species Act (Act) and the MSHCP, the need to adhere to the provisions of the Act and the MSHCP, the penalties associated with violating the provisions of the Act, the general measures that are being implemented to conserve the species of concern as they relate to the project, and the access routes to and project site boundaries within which the project activities must be accomplished.
2. Water pollution and erosion control plans shall be developed and implemented in accordance with Regional Water Quality Control Board (RWQCB) requirements.
3. The footprint of disturbance shall be minimized to the maximum extent feasible. Access to sites shall be via preexisting access routes to the greatest extent possible.
4. The upstream and downstream limits of projects disturbance plus lateral limits of disturbance on either side of the stream shall be clearly defined and marked in the field and reviewed by the biologist prior to initiation of work.
5. Projects should be designed to avoid the placement of equipment and personnel within the stream channel or on sand and gravel bars, banks, and adjacent upland habitats used by target species of concern.

6. Projects that cannot be conducted without placing equipment or personnel in sensitive habitats should be timed to avoid the breeding season of riparian bird species identified in MSHCP Global Species Objective No. 7.
7. When stream flows must be diverted, the diversions shall be conducted using sandbags or other methods requiring minimal instream impacts. Silt fencing or other sediment trapping materials shall be installed at the downstream end of construction activity to minimize the transport of sediments off site. Settling ponds where sediment is collected shall be cleaned out in a manner that prevents the sediment from reentering the stream. Care shall be exercised when removing silt fences, as feasible, to prevent debris or sediment from returning to the stream.
8. Equipment storage, fueling, and staging areas shall be located on upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats. These designated areas shall be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. Project related spills of hazardous materials shall be reported to appropriate entities including but not limited to applicable jurisdictional city, USFWS, CDFW, and RWQCB and shall be cleaned up immediately and contaminated soils removed to approved disposal areas.
9. Erodible fill material shall not be deposited into water courses. Brush, loose soils, or other similar debris material shall not be stockpiled within the stream channel or on its banks.
10. The qualified project biologist shall monitor construction activities for the duration of the project to ensure that practical measures are being employed to avoid incidental disturbance of habitat and species of concern outside the project footprint.
11. The removal of native vegetation shall be avoided and minimized to the maximum extent practical. Temporary impacts shall be returned to preexisting contours and revegetated with appropriate native species.
12. Exotic species that prey upon or displace target species of concern should be permanently removed from the site to the extent feasible.
13. To avoid attracting predators of the species of concern, the project site shall be kept as clean of debris as possible. All food related trash items shall be enclosed in sealed containers and regularly removed from the site(s).
14. Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimal area necessary to complete the project and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas.

15. RCTC shall have the right to access and inspect any sites of approved projects including any restoration/enhancement area for compliance with project approval conditions including these BMPs.



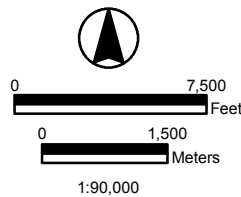
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LEGEND

- | | |
|-----------------------------------|---------------------------------------|
| — Roadway Segment | Constructed Pond |
| — Match Line | Hemet Channel |
| --- Long-Term Traffic Detour | Riparian |
| Project Impact Area | Salt Creek Channel |
| Utility Relocation Area | Seasonal Wetland |
| MSHCP Criteria Cell ^{CR} | San Jacinto River 100-Year Floodplain |

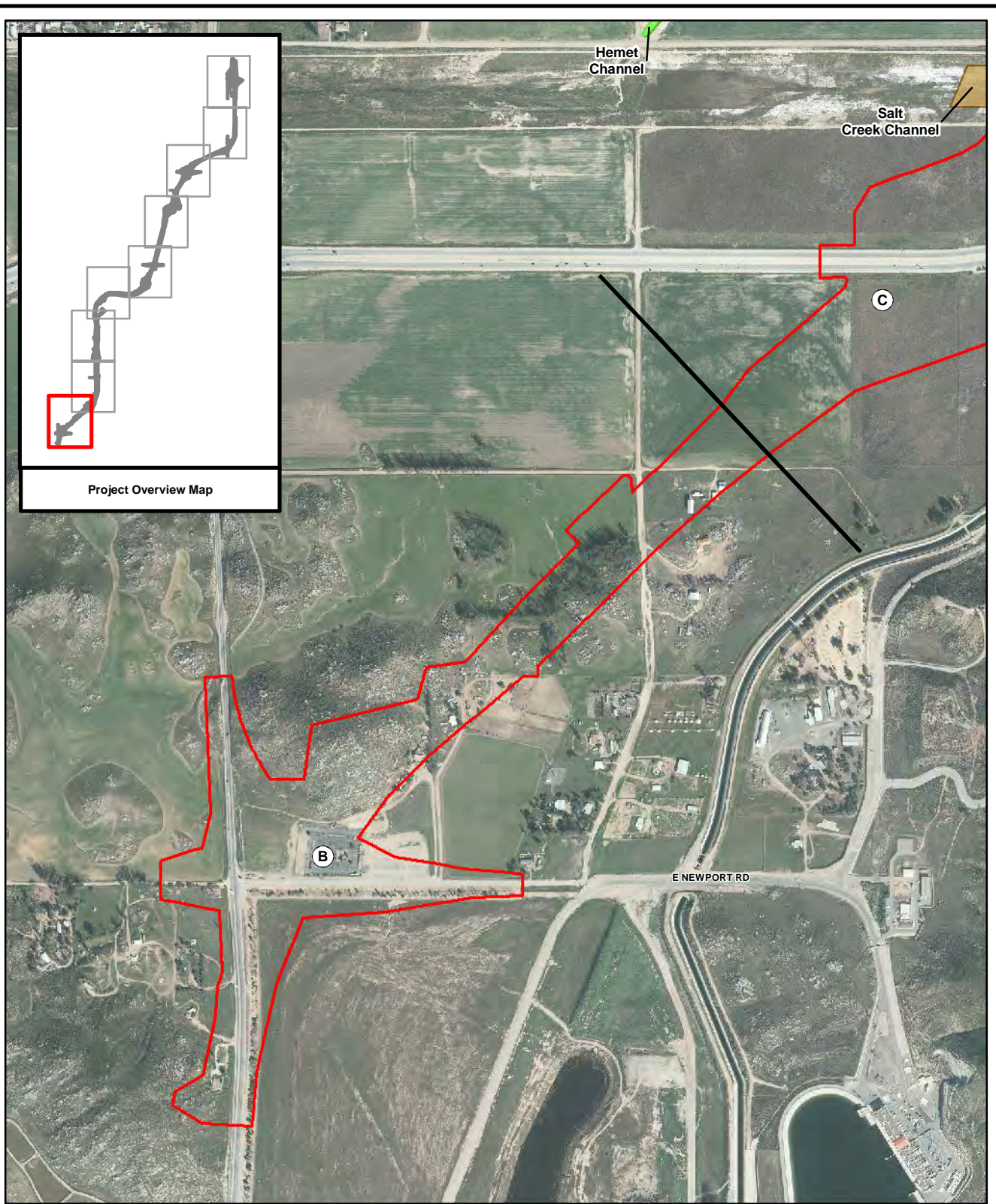
Source: CR - County of Riverside



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Figure 4.1-1a MSHCP Riparian/Riverine Features within Build

Alternative 1b Overview
Western Riverside County MSHCP
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Determination of a Biologically
Equivalent or Superior Preservation
State Route 79 Realignment Project

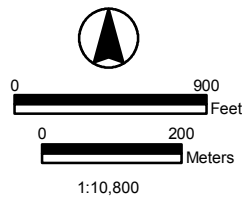


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LEGEND

- | | |
|-----------------------------------|---------------------------------------|
| — Roadway Segment Match Line | Constructed Pond |
| --- Long-Term Traffic Detour | Hemet Channel |
| Project Impact Area | Riparian |
| Utility Relocation Area | Salt Creek Channel |
| MSHCP Criteria Cell ^{CR} | Seasonal Wetland |
| | San Jacinto River 100-Year Floodplain |



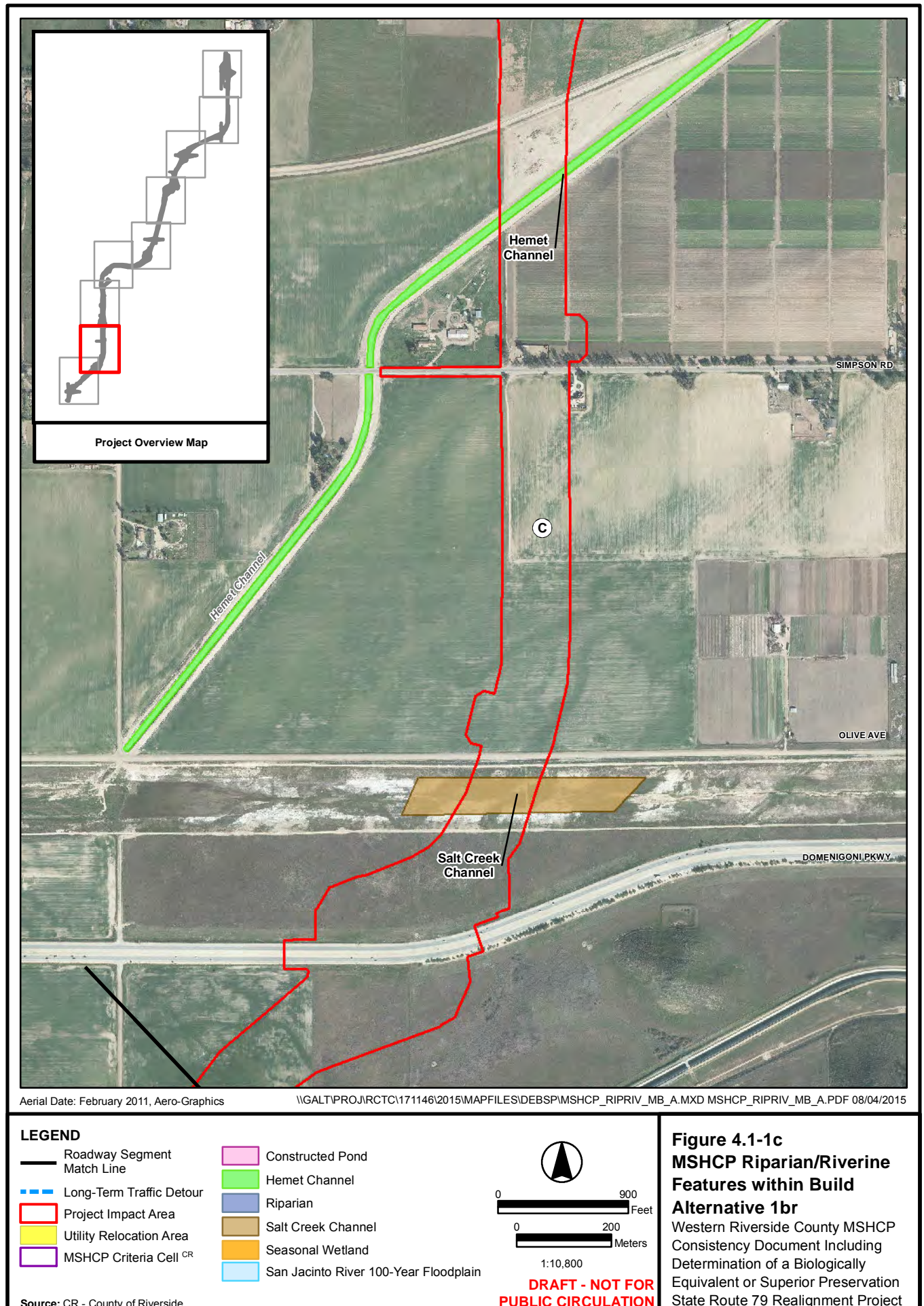
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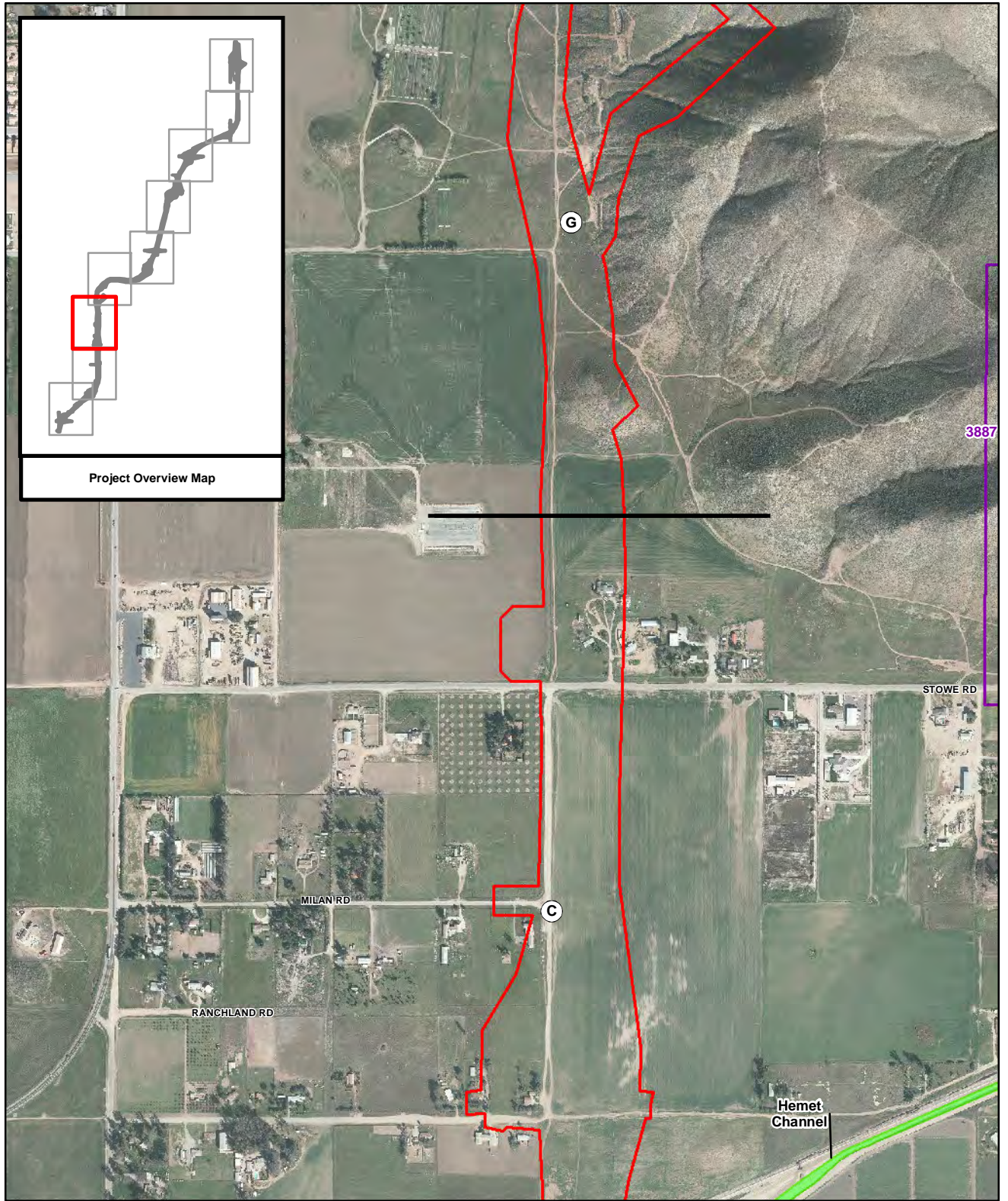
Figure 4.1-1b MSHCP Riparian/Riverine Features within Build

Alternative 1br

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State Route 79 Realignment Project

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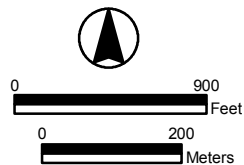
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LEGEND

- | | |
|-----------------------------------|---------------------------------------|
| Roadway Segment | Constructed Pond |
| Long-Term Traffic Detour | Hemet Channel |
| Project Impact Area | Riparian |
| Utility Relocation Area | Salt Creek Channel |
| MSHCP Criteria Cell ^{CR} | Seasonal Wetland |
| | San Jacinto River 100-Year Floodplain |

Source: CR - County of Riverside

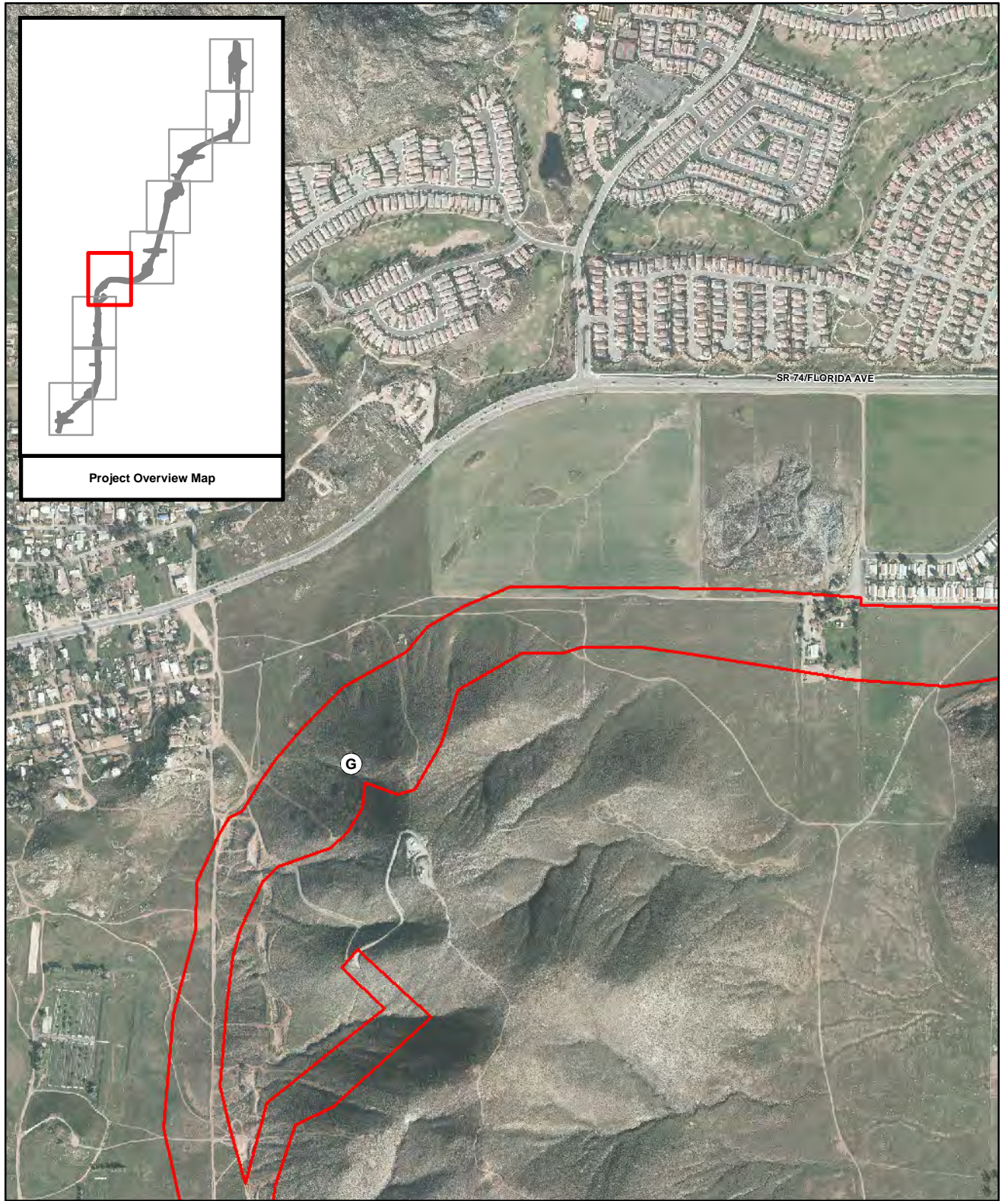


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Figure 4.1-1d MSHCP Riparian/Riverine Features within Build

Alternative 1br

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State Route 79 Realignment Project

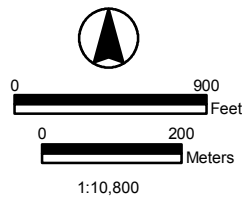


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LEGEND

- | | |
|-----------------------------------|---------------------------------------|
| — Roadway Segment | Constructed Pond |
| — Match Line | Hemet Channel |
| --- Long-Term Traffic Detour | Riparian |
| Project Impact Area | Salt Creek Channel |
| Utility Relocation Area | Seasonal Wetland |
| MSHCP Criteria Cell ^{CR} | San Jacinto River 100-Year Floodplain |

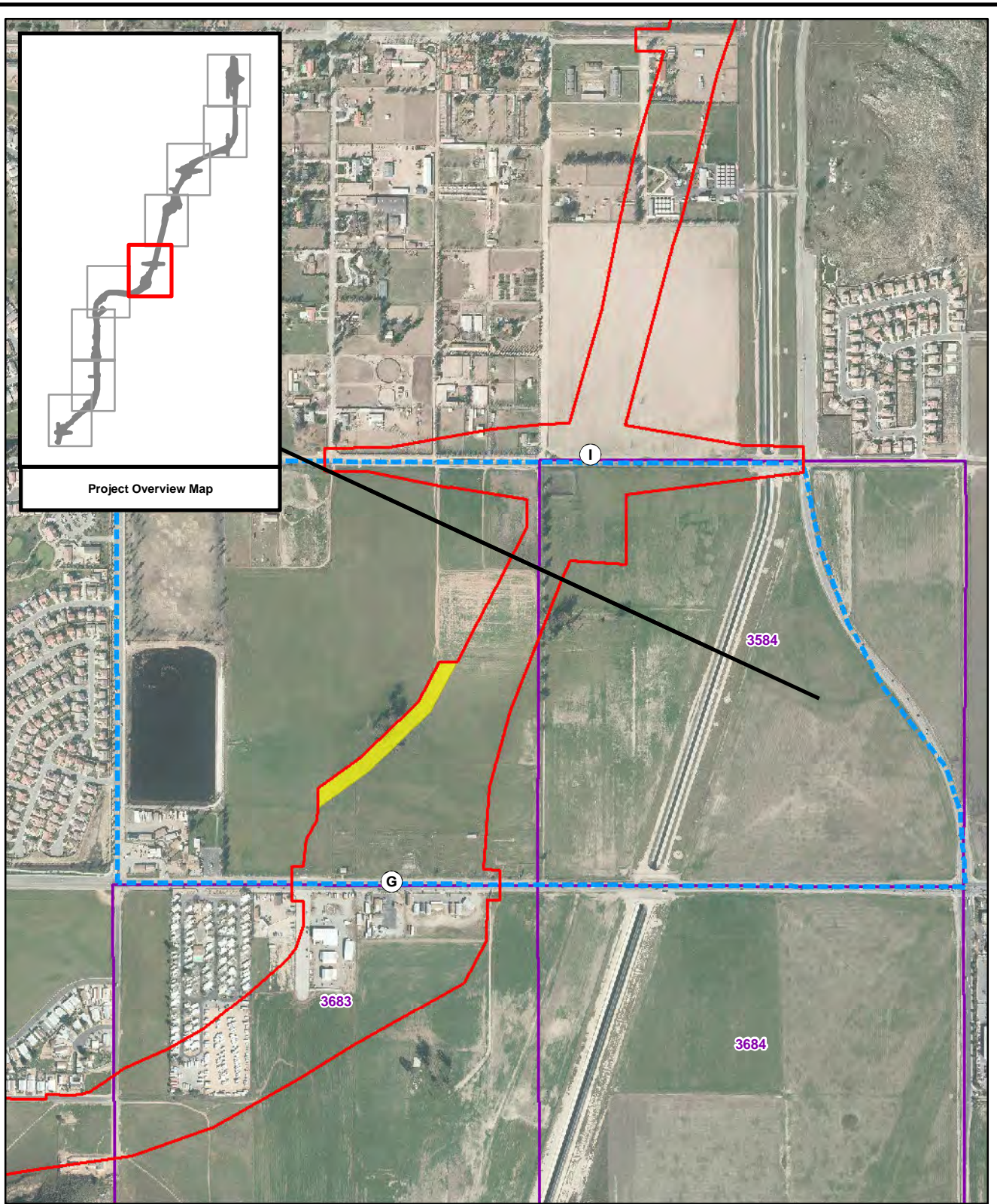


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Figure 4.1-1e MSHCP Riparian/Riverine Features within Build

Alternative 1br
Western Riverside County MSHCP
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Source: CR - County of Riverside

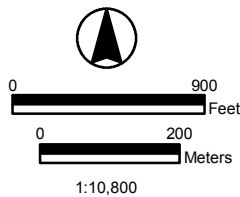


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LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- MSHCP Criteria Cell ^{CR}
- Constructed Pond
- Hemet Channel
- Riparian
- Salt Creek Channel
- Seasonal Wetland
- San Jacinto River 100-Year Floodplain



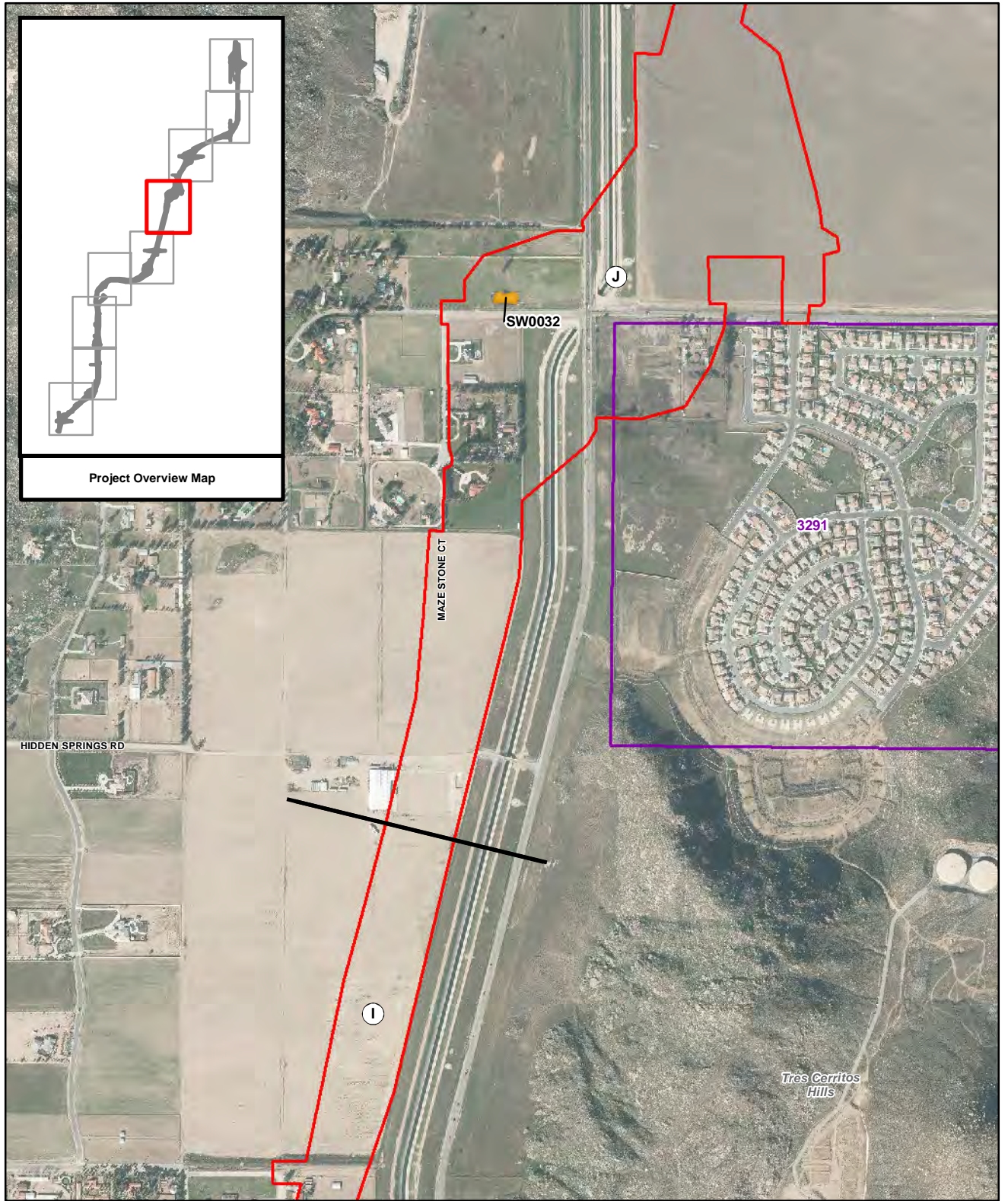
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Figure 4.1-1f MSHCP Riparian/Riverine Features within Build

Alternative 1br

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Consistency Document Including
Determination of a Biologically
Equivalent or Superior Preservation
State Route 79 Realignment Project

Source: CR - County of Riverside

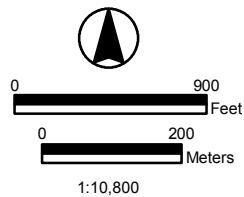


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LEGEND

- | | |
|-----------------------------------|---------------------------------------|
| Roadway Segment Match Line | Constructed Pond |
| Long-Term Traffic Detour | Hemet Channel |
| Project Impact Area | Riparian |
| Utility Relocation Area | Salt Creek Channel |
| MSHCP Criteria Cell ^{CR} | Seasonal Wetland |
| | San Jacinto River 100-Year Floodplain |



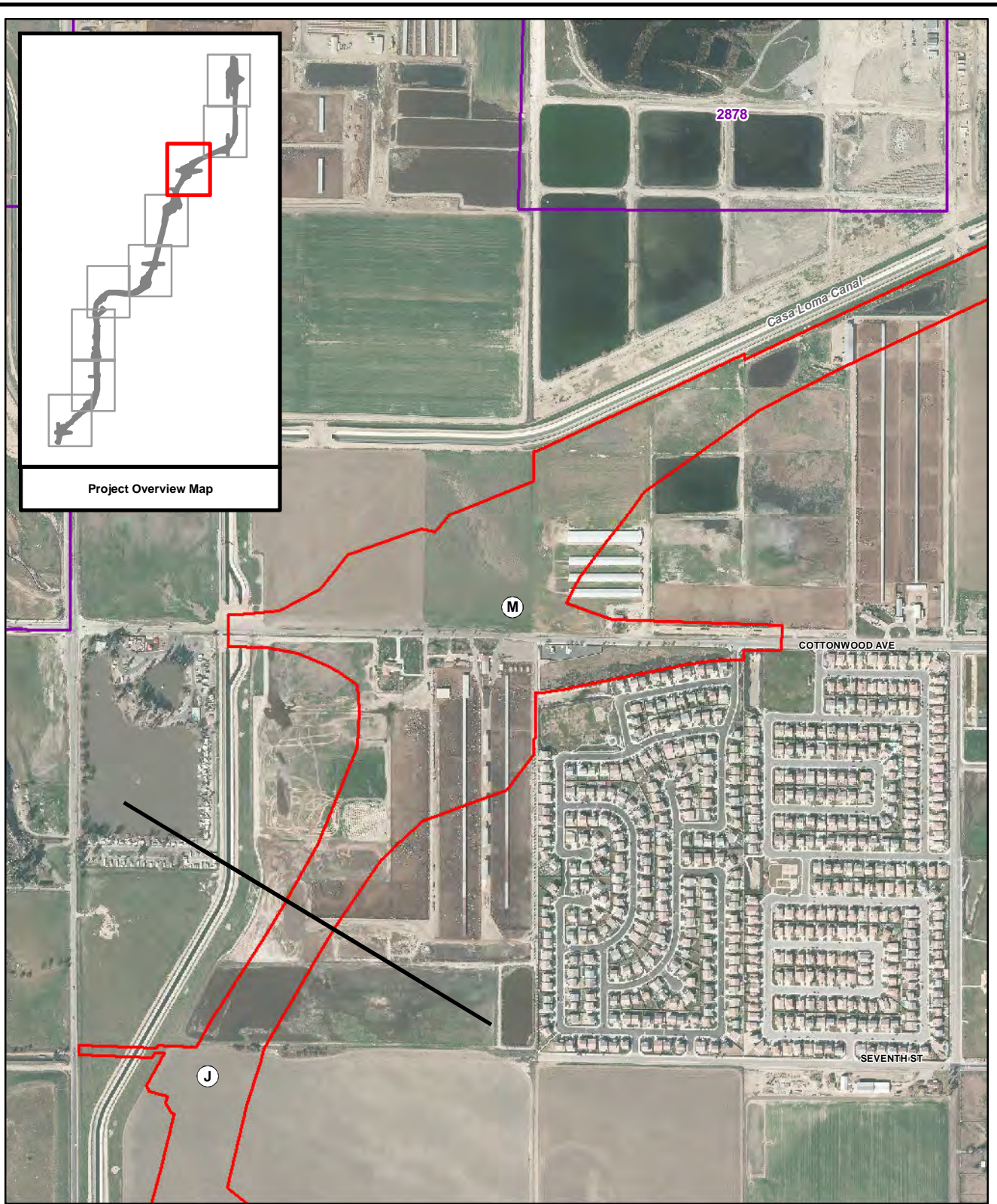
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Figure 4.1-1g MSHCP Riparian/Riverine Features within Build

Alternative 1br

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Source: CR - County of Riverside

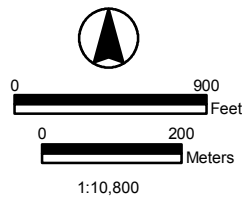


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LEGEND

- | | |
|-----------------------------------|---------------------------------------|
| — Roadway Segment Match Line | Constructed Pond |
| --- Long-Term Traffic Detour | Hemet Channel |
| Project Impact Area | Riparian |
| Utility Relocation Area | Salt Creek Channel |
| MSHCP Criteria Cell ^{CR} | Seasonal Wetland |
| | San Jacinto River 100-Year Floodplain |



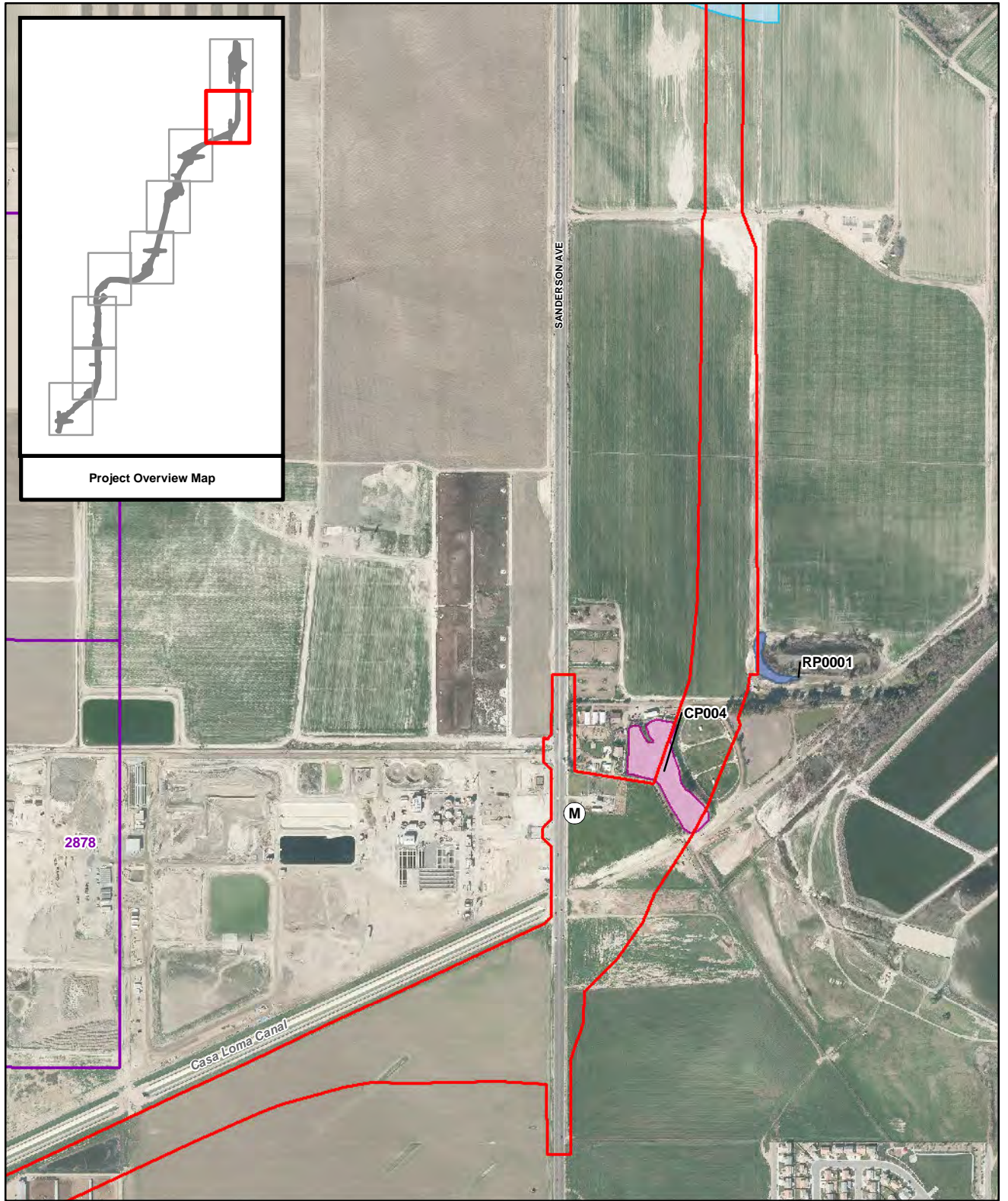
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Figure 4.1-1h MSHCP Riparian/Riverine Features within Build

Alternative 1br

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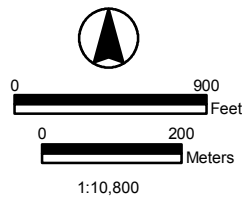


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LEGEND

- | | |
|-----------------------------------|---------------------------------------|
| — Roadway Segment Match Line | Constructed Pond |
| --- Long-Term Traffic Detour | Hemet Channel |
| Project Impact Area | Riparian |
| Utility Relocation Area | Salt Creek Channel |
| MSHCP Criteria Cell ^{CR} | Seasonal Wetland |
| | San Jacinto River 100-Year Floodplain |



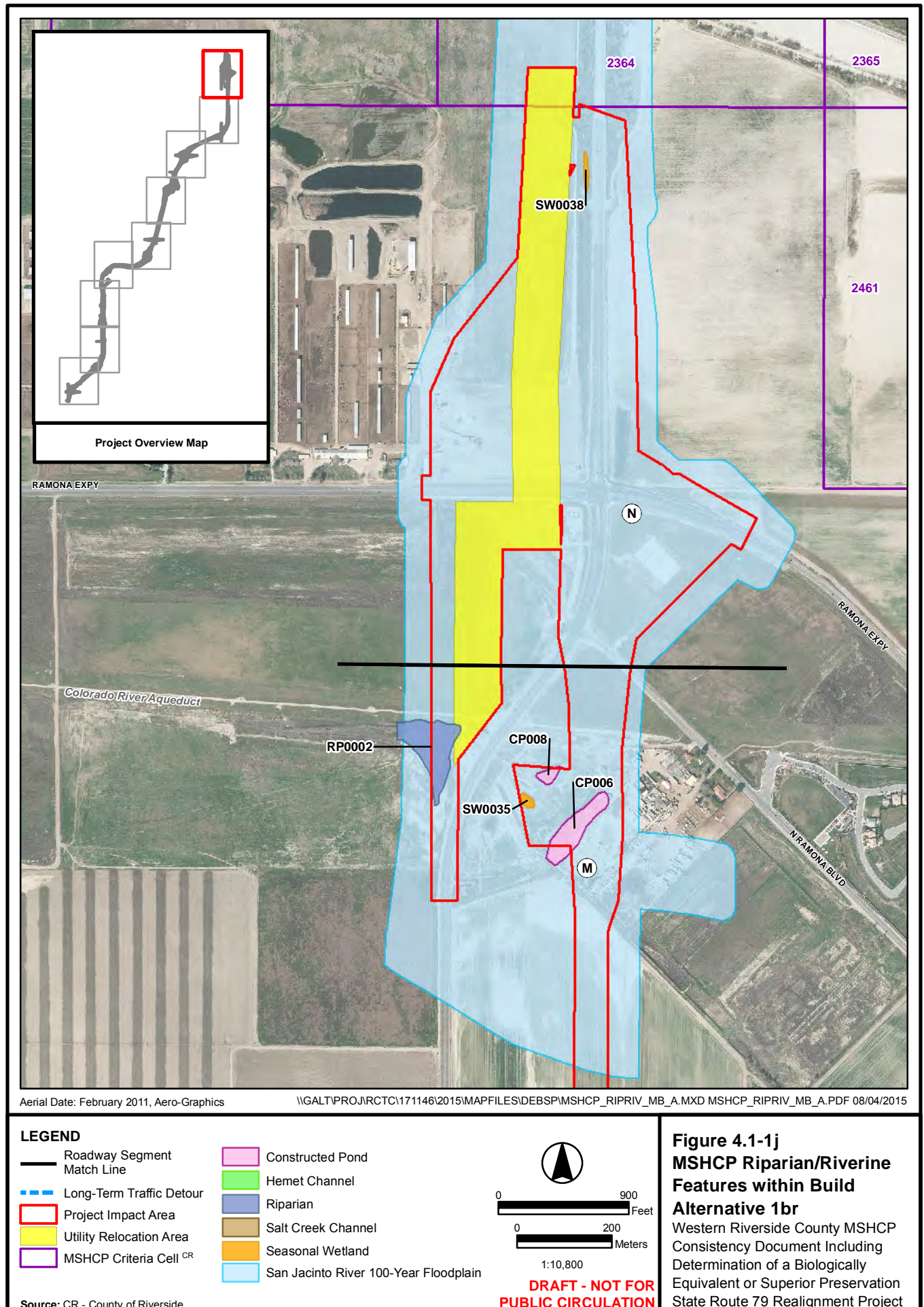
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Figure 4.1-1i MSHCP Riparian/Riverine Features within Build

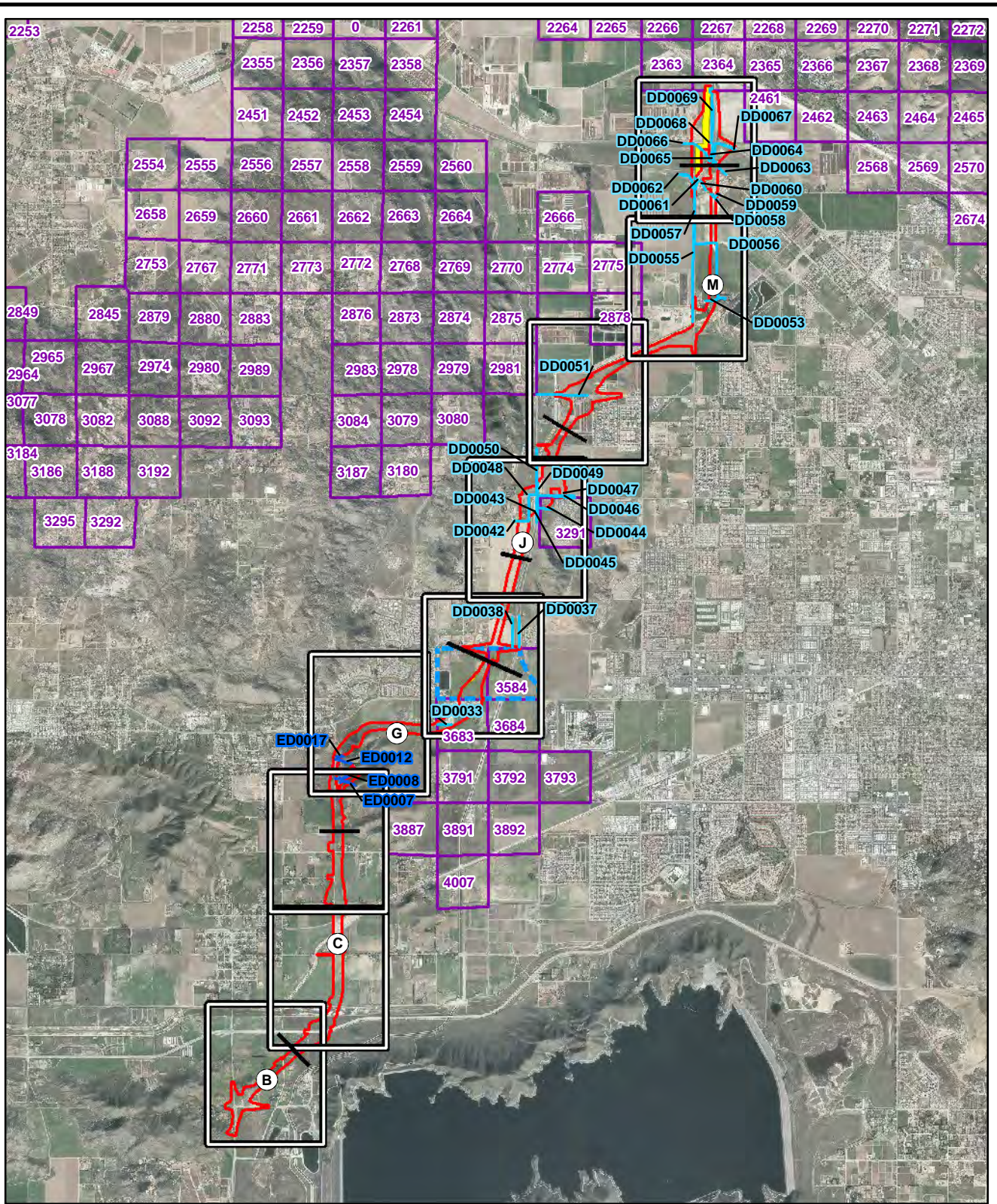
Alternative 1br

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State Route 79 Realignment Project

Source: CR - County of Riverside



Source: CR - County of Riverside

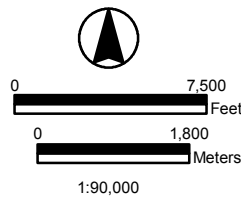


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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- ▭ Project Impact Area
- ▭ Utility Relocation Area
- ▭ MSHCP Criteria Cell ^{CR}
- ▭ Drainage Ditch
- ▭ Erosional Drainage



Source: CR - County of Riverside

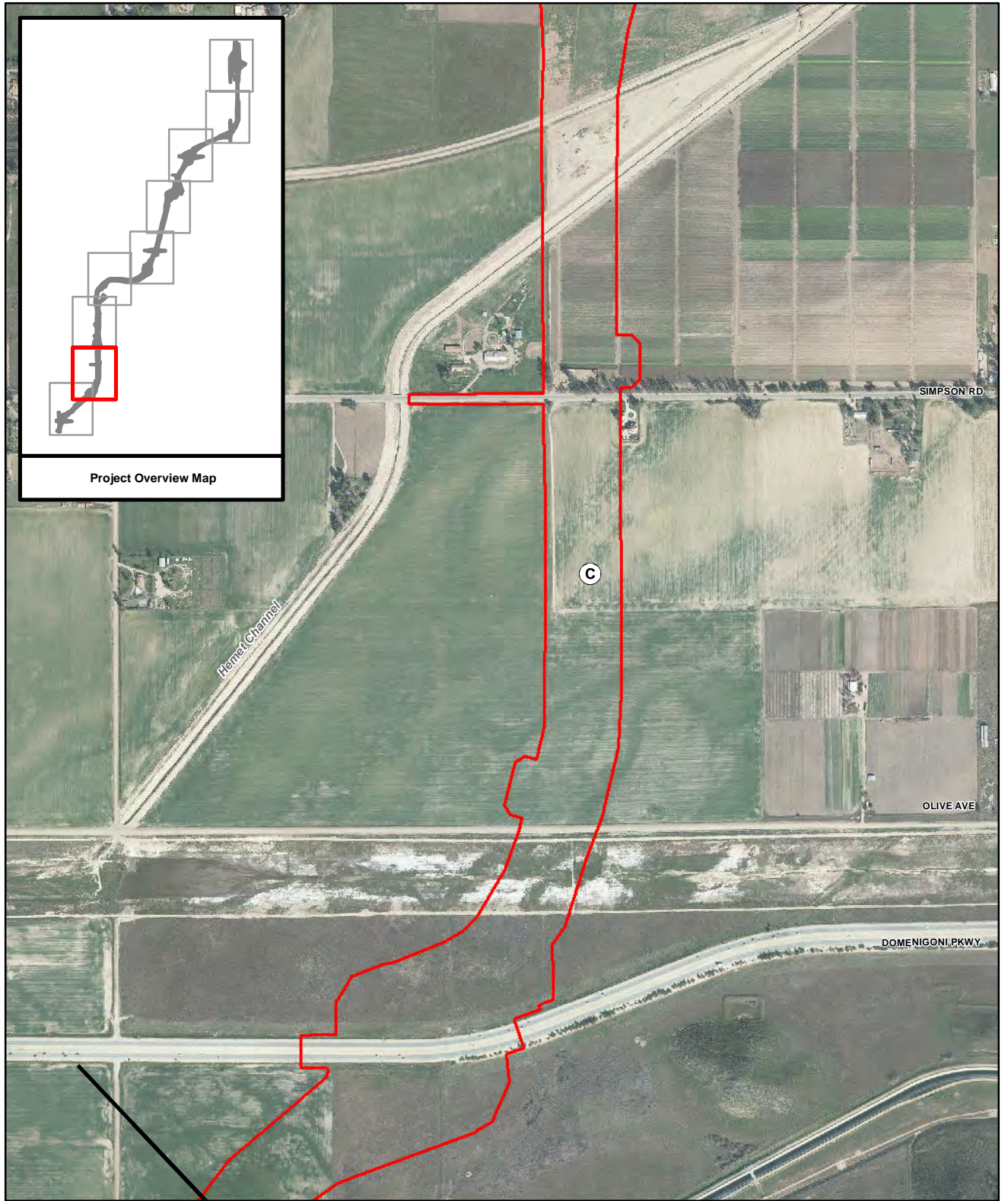
Note: The features shown in this map are not MSHCP Riparian/Riverine features

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Figure 4.1-2a
Erosional Drainages and
Drainage Ditches within Build
Alternative 1b Overview
Western Riverside County MSHCP
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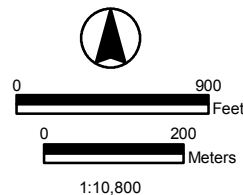
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LEGEND

- Roadway Segment
- Match Line
- - - Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- MSHCP Criteria Cell ^{CR}
- Drainage Ditch
- Erosional Drainage

Source: CR - County of Riverside

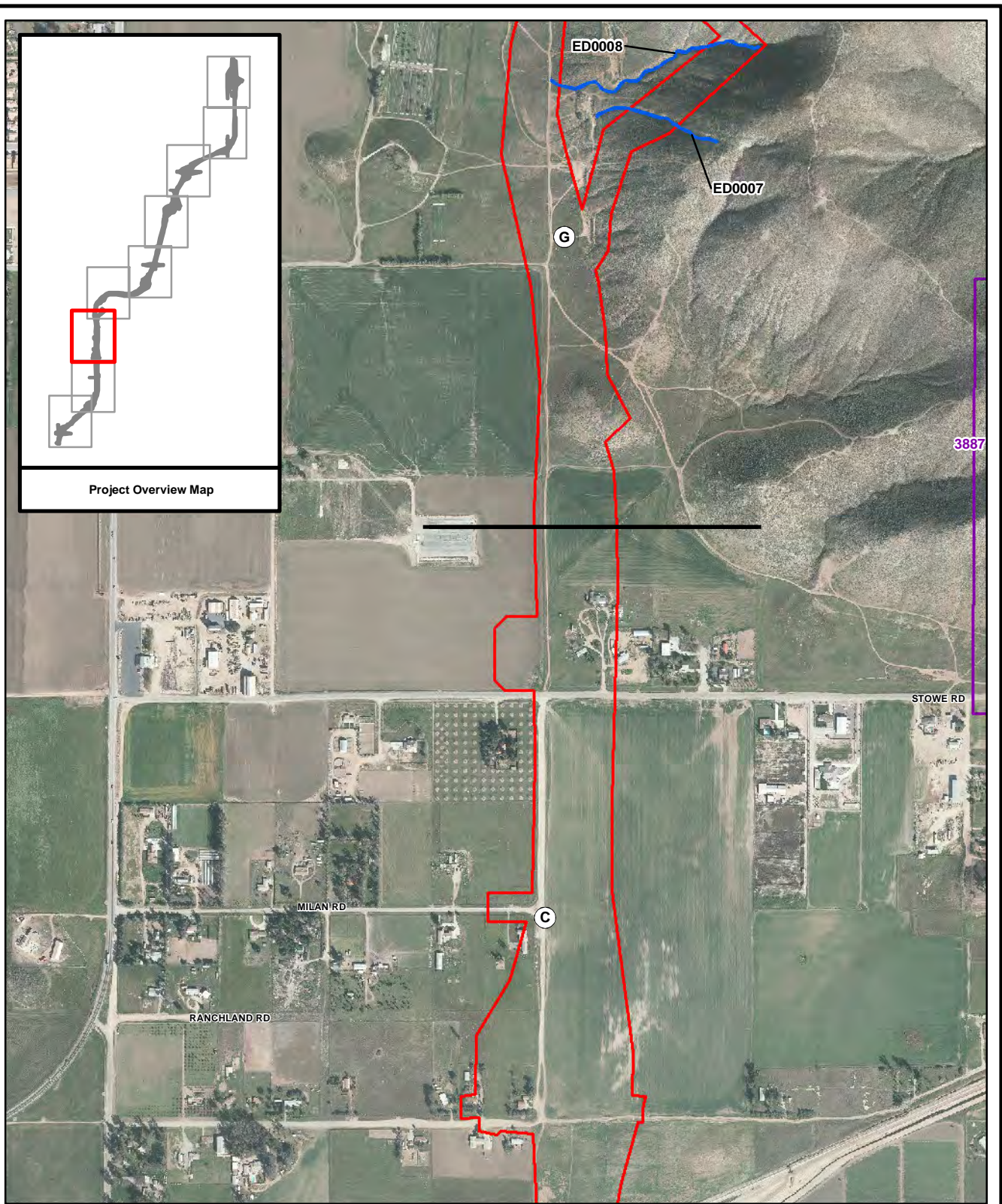
Note: The features shown in this map are not MSHCP Riparian/Riverine features



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Figure 4.1-2c Erosional Drainages and Drainage Ditches within Build Alternative 1br

Western Riverside County MSHCP
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Determination of a Biologically
Equivalent or Superior Preservation
State Route 79 Realignment Project



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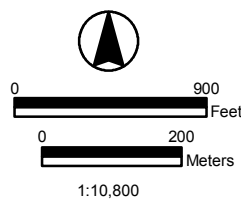
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LEGEND

- Roadway Segment
- Match Line
- - - Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- MSHCP Criteria Cell ^{CR}
- Drainage Ditch
- Erosional Drainage

Source: CR - County of Riverside

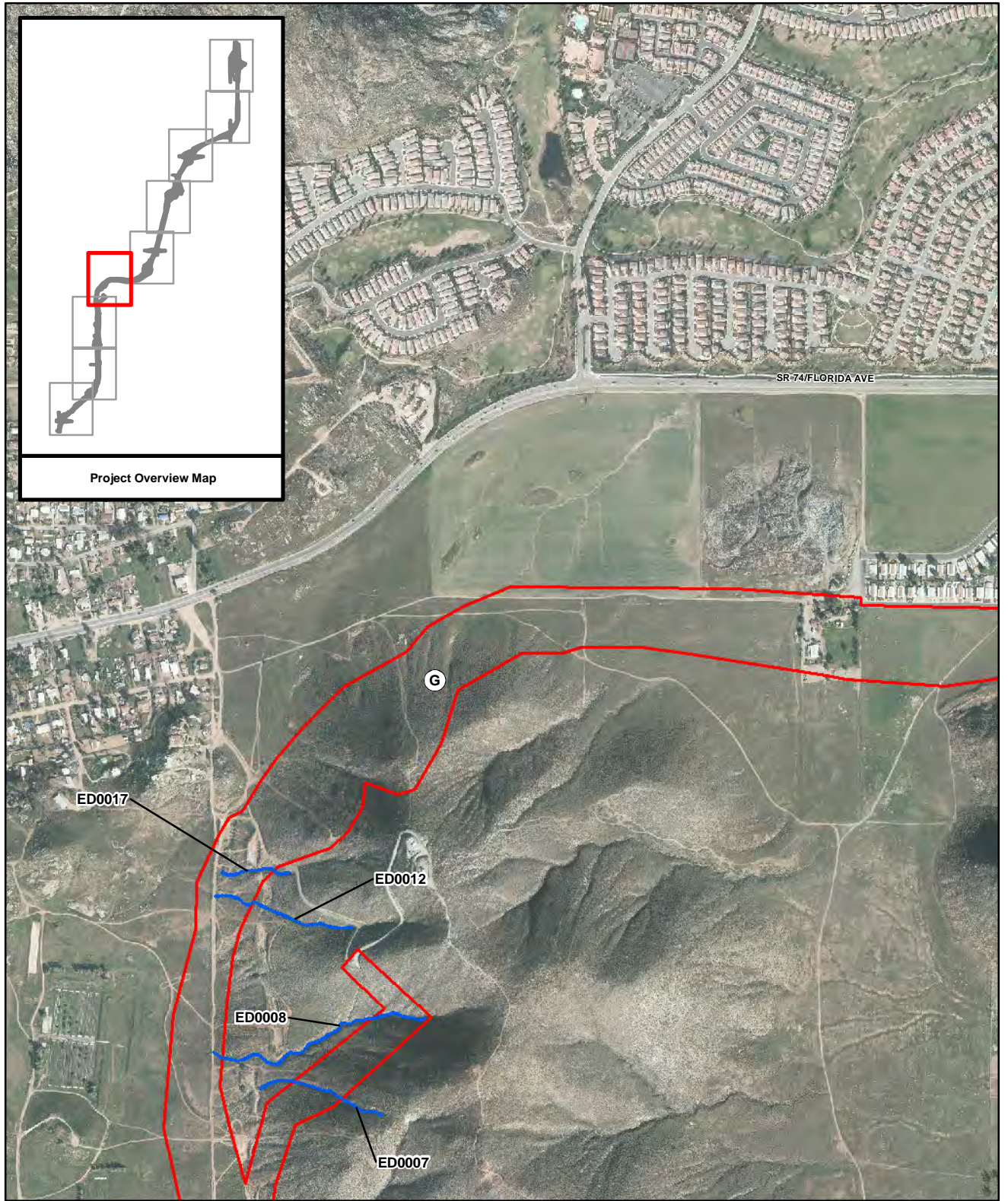
Note: The features shown in this map are not MSHCP Riparian/Riverine features



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Figure 4.1-2d Erosional Drainages and Drainage Ditches within Build Alternative 1br

Western Riverside County MSHCP
Consistency Document Including
Determination of a Biologically
Equivalent or Superior Preservation
State Route 79 Realignment Project

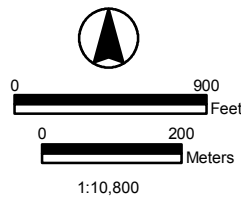


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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- MSHCP Criteria Cell ^{CR}
- Drainage Ditch
- Erosional Drainage



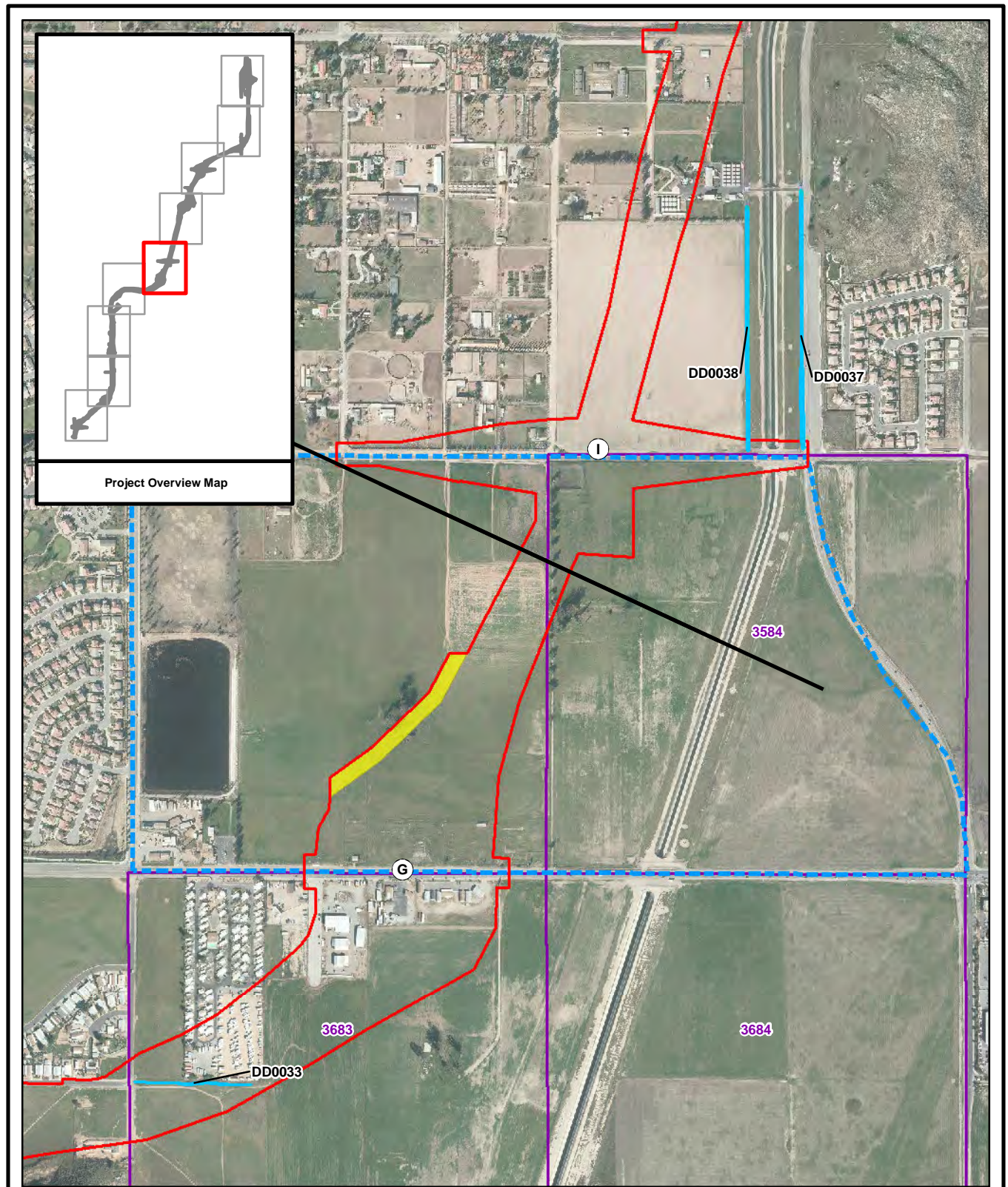
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Figure 4.1-2e Erosional Drainages and Drainage Ditches within Build Alternative 1br

Western Riverside County MSHCP
Consistency Document Including
Determination of a Biologically
Equivalent or Superior Preservation
State Route 79 Realignment Project

Source: CR - County of Riverside

Note: The features shown in this map are not MSHCP Riparian/Riverine features

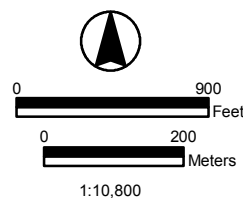


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LEGEND

- Roadway Segment
- Match Line
- - - Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- MSHCP Criteria Cell ^{CR}
- Drainage Ditch
- Erosional Drainage



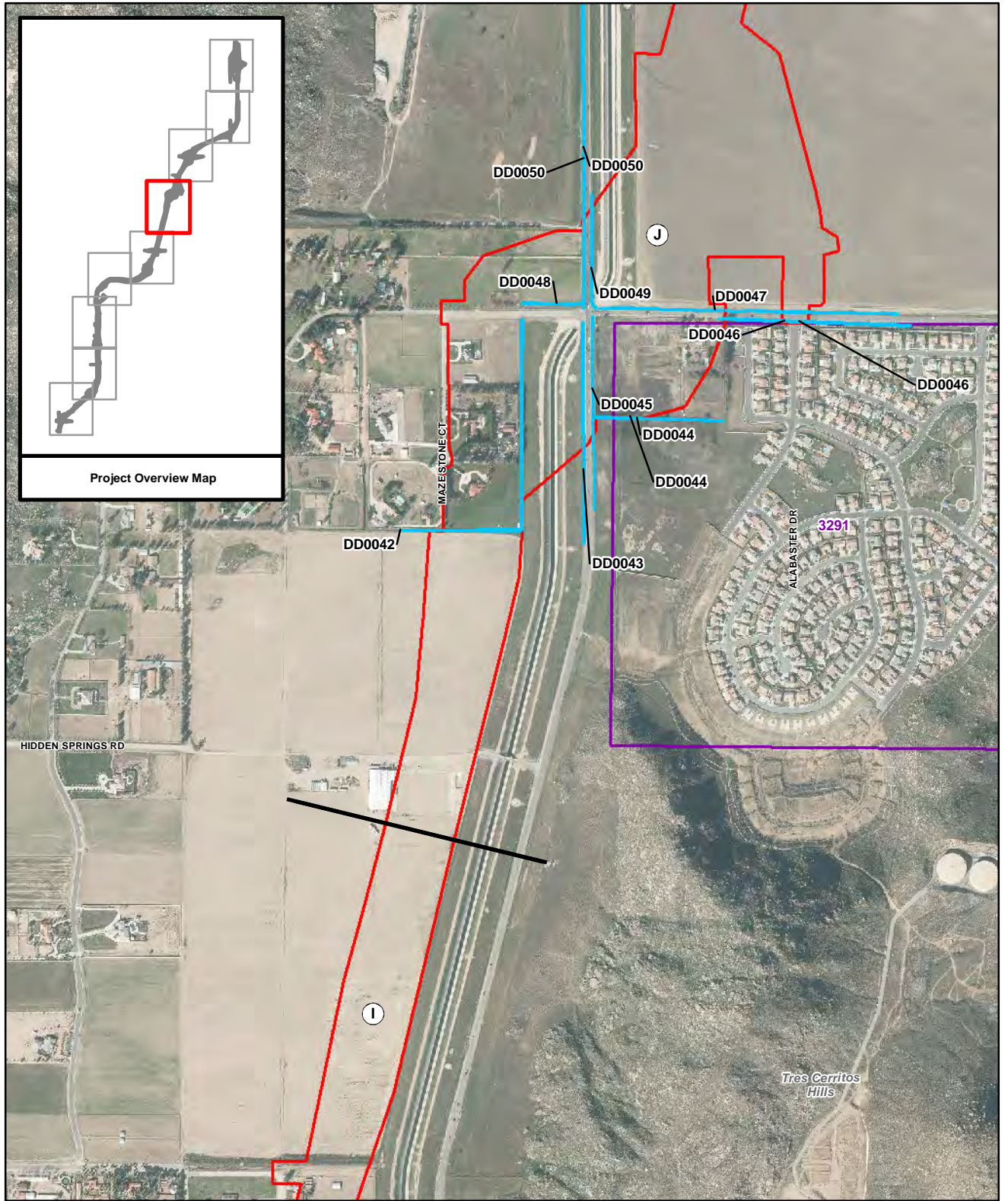
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Figure 4.1-2f Erosional Drainages and Drainage Ditches within Build Alternative 1br

Western Riverside County MSHCP
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Equivalent or Superior Preservation
State Route 79 Realignment Project

Source: CR - County of Riverside

Note: The features shown in this map are not MSHCP Riparian/Riverine features

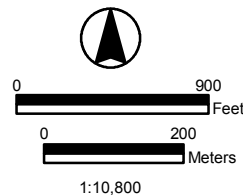


Aerial Date: February 2011, Aero-Graphics

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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- MSHCP Criteria Cell ^{CR}
- Drainage Ditch
- Erosional Drainage



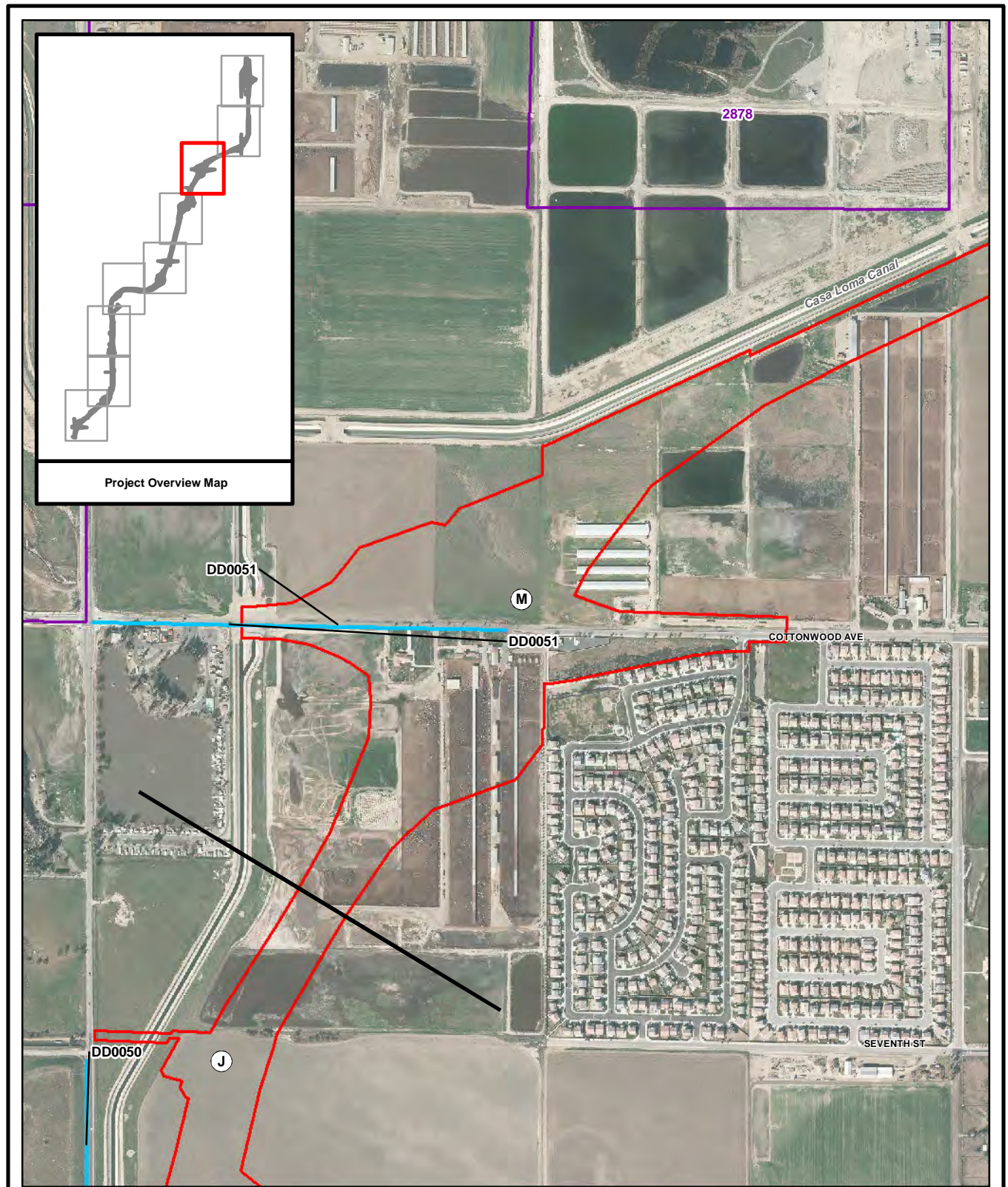
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PUBLIC CIRCULATION**

Figure 4.1-2g Erosional Drainages and Drainage Ditches within Build Alternative 1br

Western Riverside County MSHCP
Consistency Document Including
Determination of a Biologically
Equivalent or Superior Preservation
State Route 79 Realignment Project

Source: CR - County of Riverside

Note: The features shown in this map are not MSHCP Riparian/Riverine features



Aerial Date: February 2011, Aero-Graphics

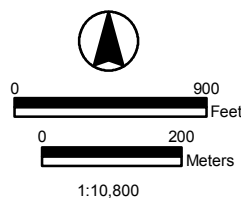
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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- MSHCP Criteria Cell ^{CR}
- Drainage Ditch
- Erosional Drainage

Source: CR - County of Riverside

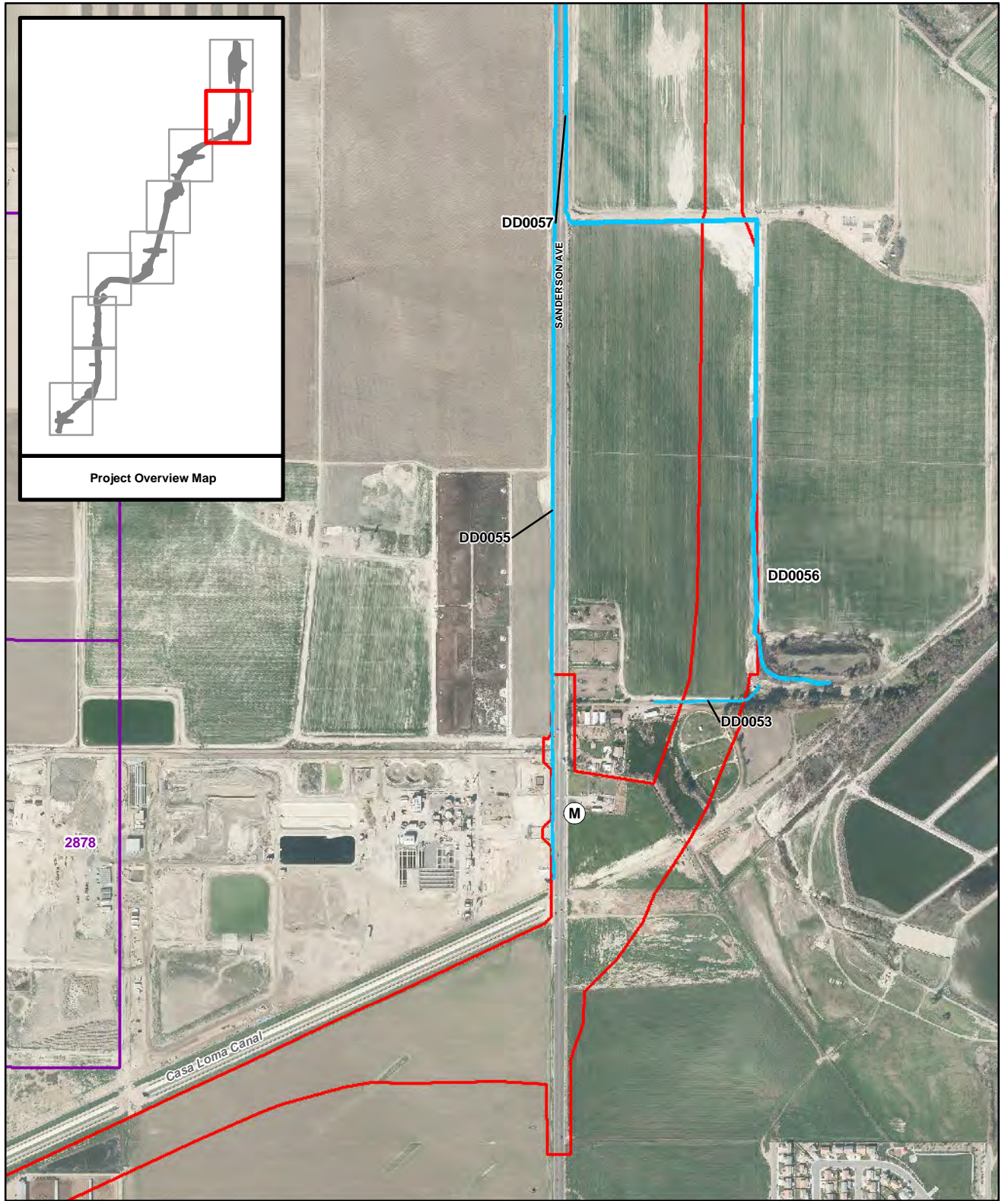
Note: The features shown in this map are not MSHCP Riparian/Riverine features



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Figure 4.1-2h Erosional Drainages and Drainage Ditches within Build Alternative 1br

Western Riverside County MSHCP
Consistency Document Including
Determination of a Biologically
Equivalent or Superior Preservation
State Route 79 Realignment Project

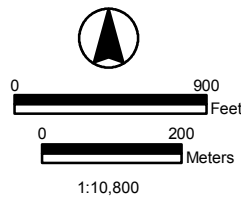


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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- MSHCP Criteria Cell ^{CR}
- Drainage Ditch
- Erosional Drainage



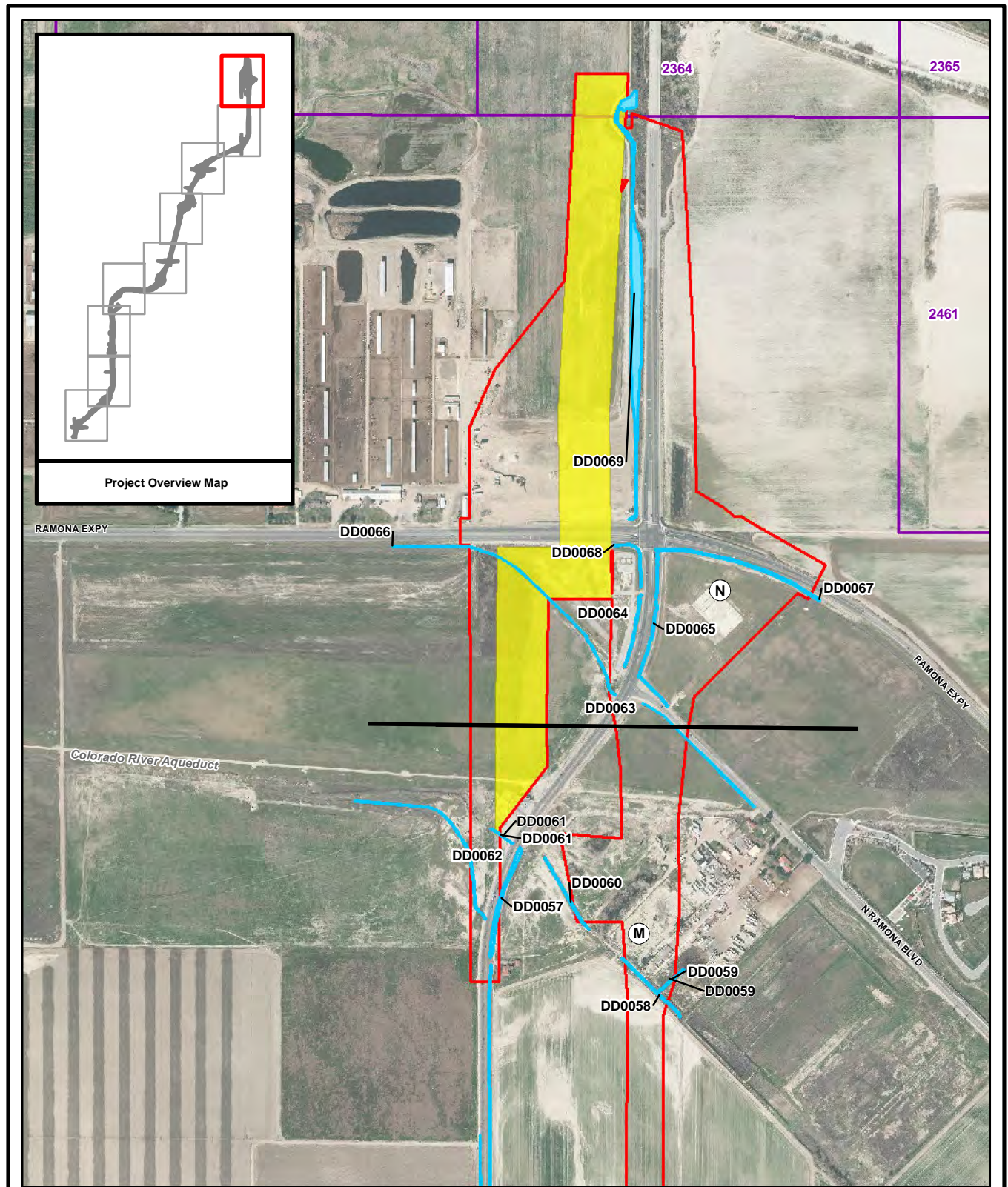
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Figure 4.1-2i Erosional Drainages and Drainage Ditches within Build Alternative 1br

Western Riverside County MSHCP
Consistency Document Including
Determination of a Biologically
Equivalent or Superior Preservation
State Route 79 Realignment Project

Source: CR - County of Riverside

Note: The features shown in this map are not MSHCP Riparian/Riverine features



Aerial Date: February 2011, Aero-Graphics

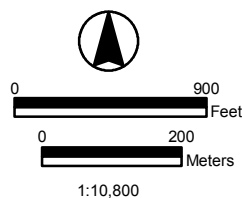
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LEGEND

- Roadway Segment
- Match Line
- - - Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- MSHCP Criteria Cell CR
- Drainage Ditch
- Erosional Drainage

Source: CR - County of Riverside

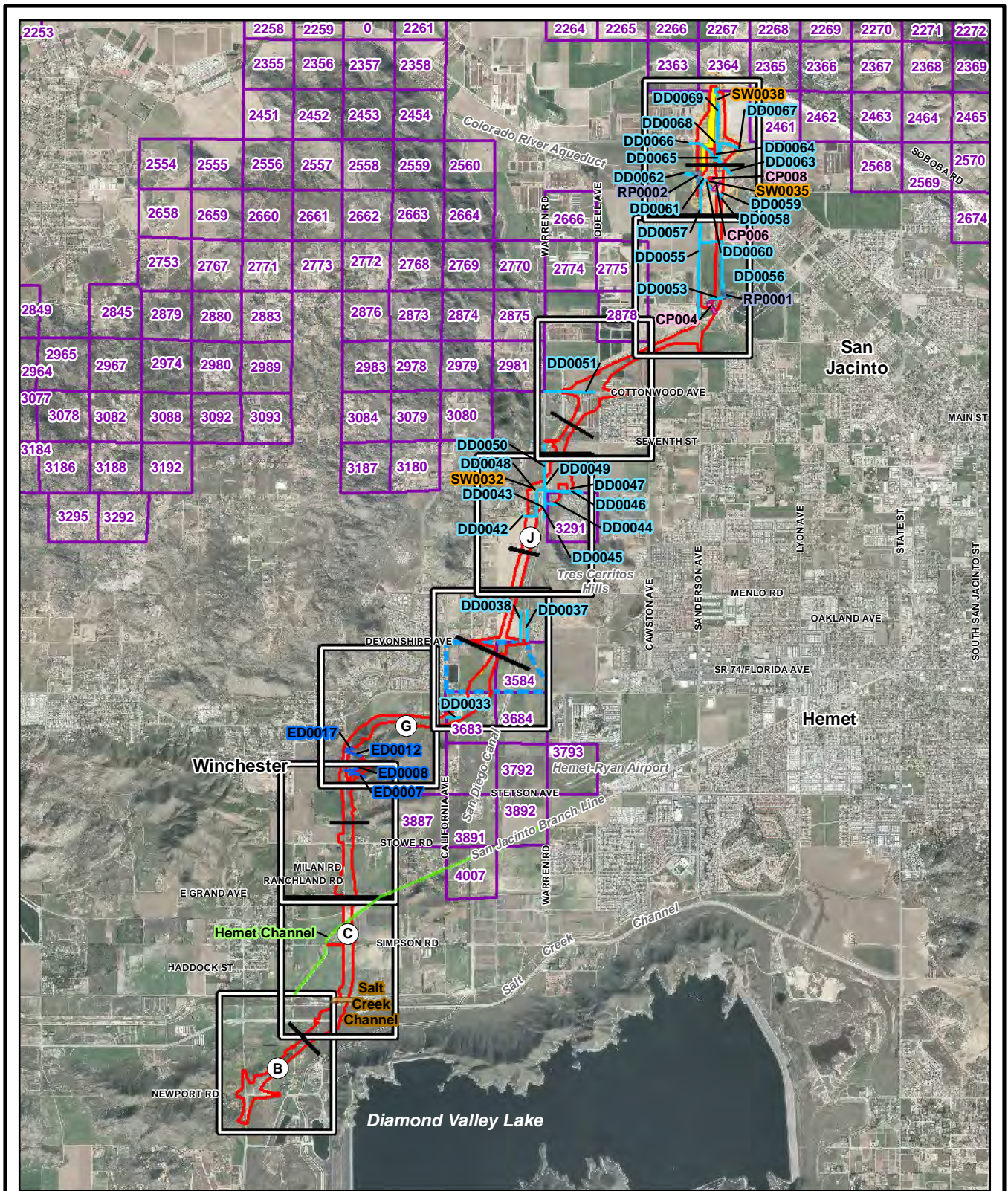
Note: The features shown in this map are not MSHCP Riparian/Riverine features



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Figure 4.1-2j Erosional Drainages and Drainage Ditches within Build Alternative 1br

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LEGEND

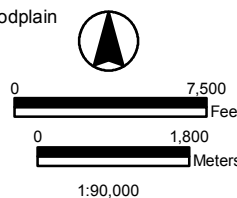
- Roadway Segment Match Line
- - - Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- MSHCP Criteria Cell ^{CR}

Non-MSHCP Riparian/Riverine Features

- Drainage Ditch
- Erosional Drainage

MSHCP Riparian/Riverine Features

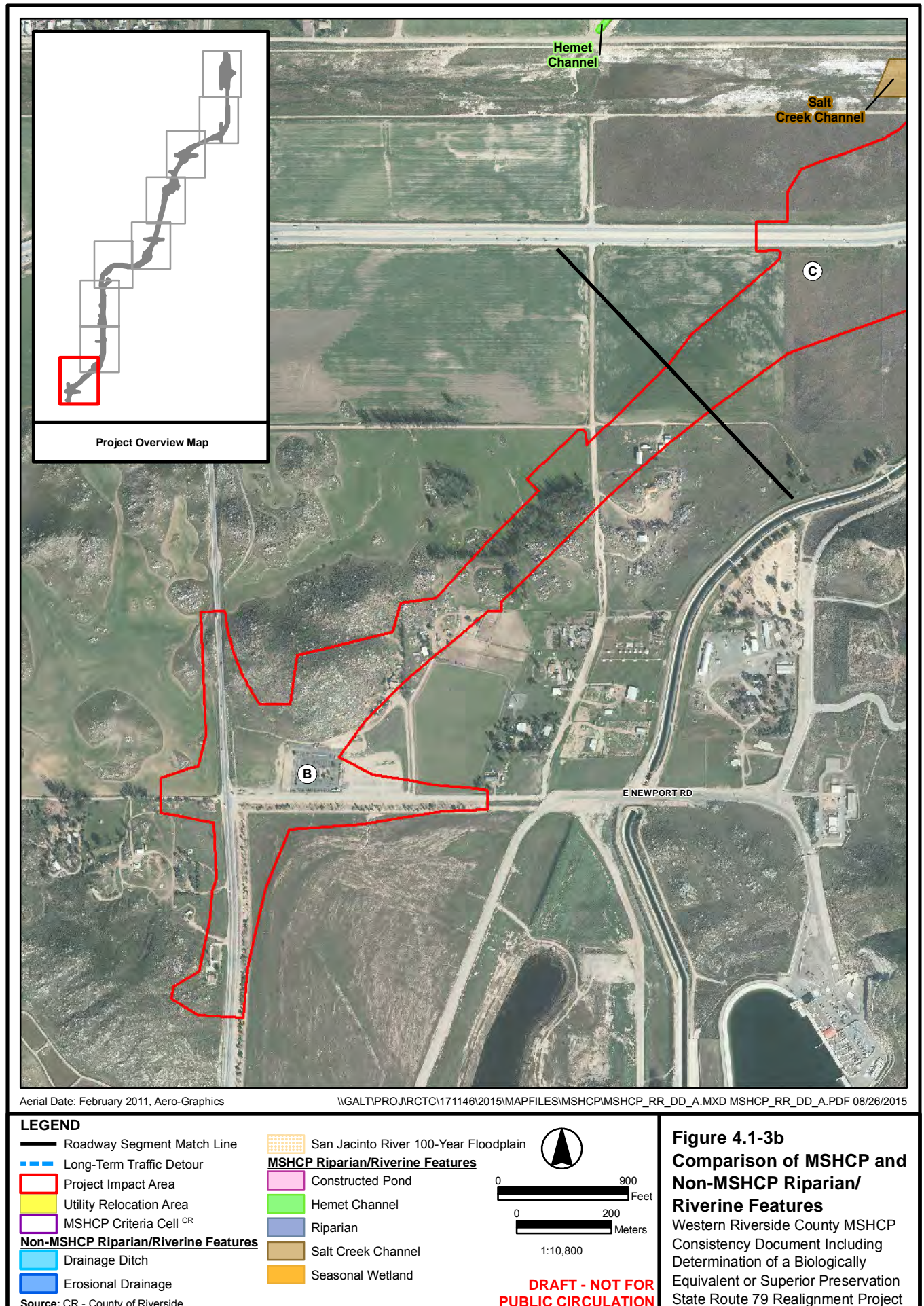
- Constructed Pond
- Hemet Channel
- Riparian
- Salt Creek Channel
- Seasonal Wetland

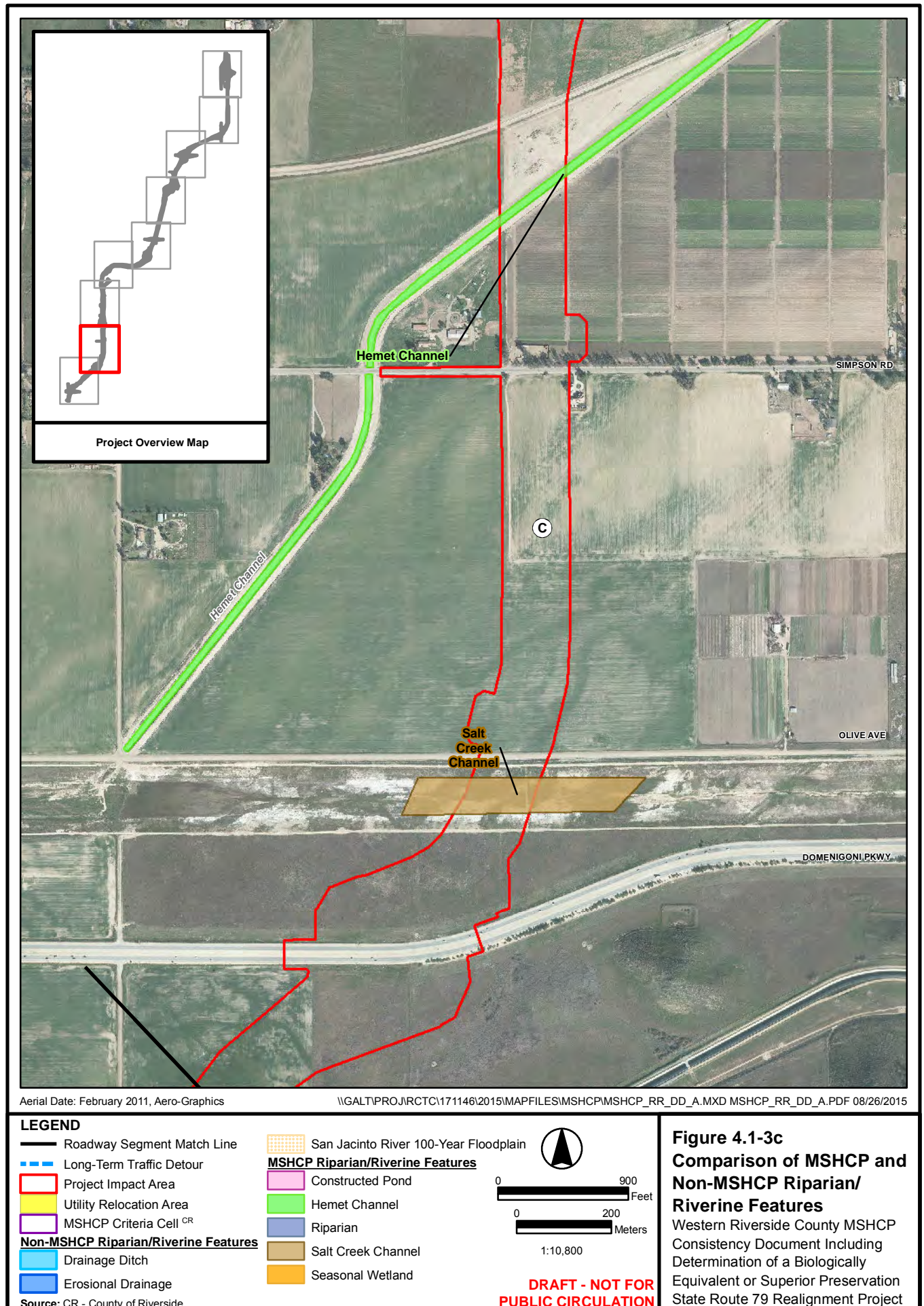


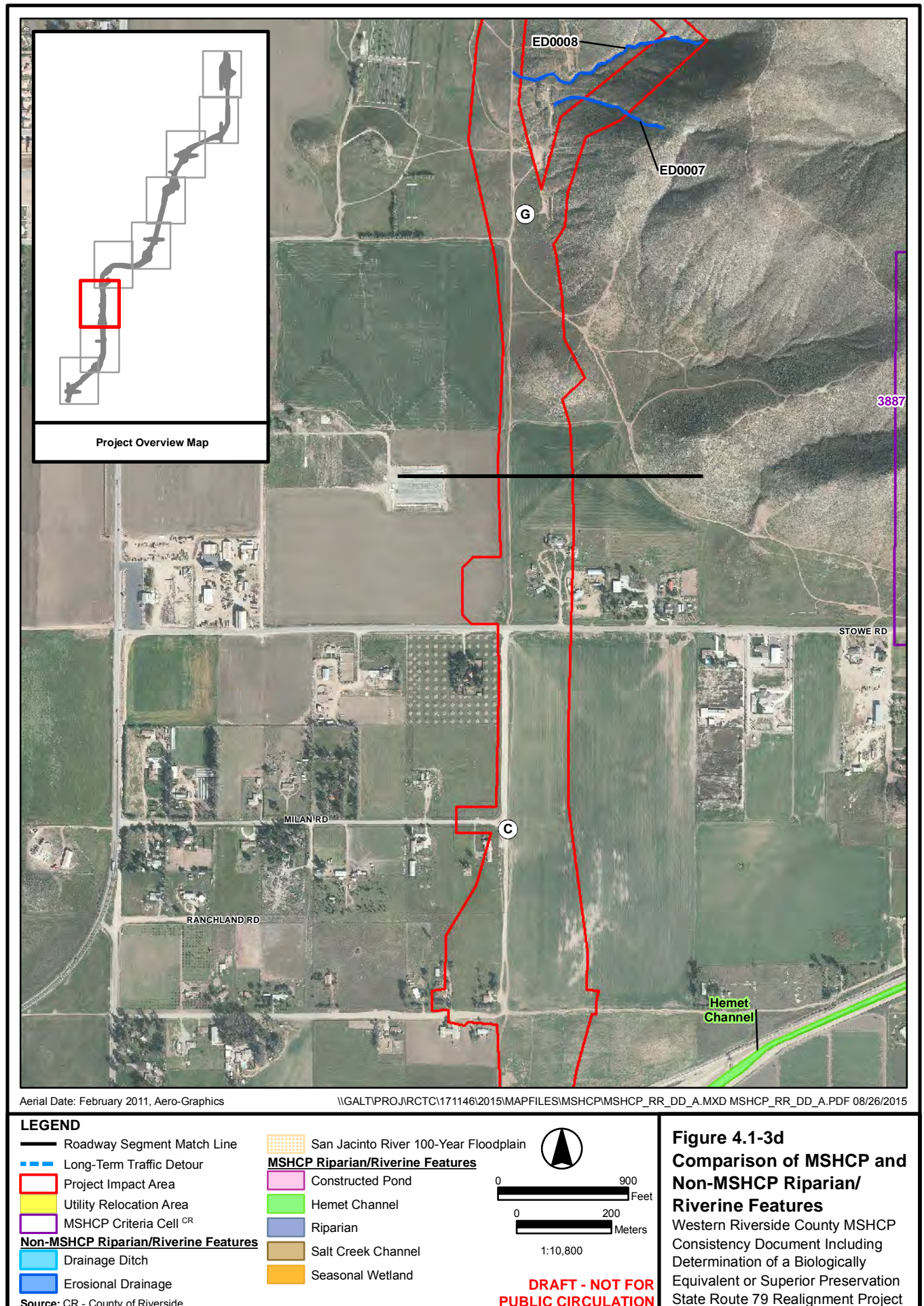
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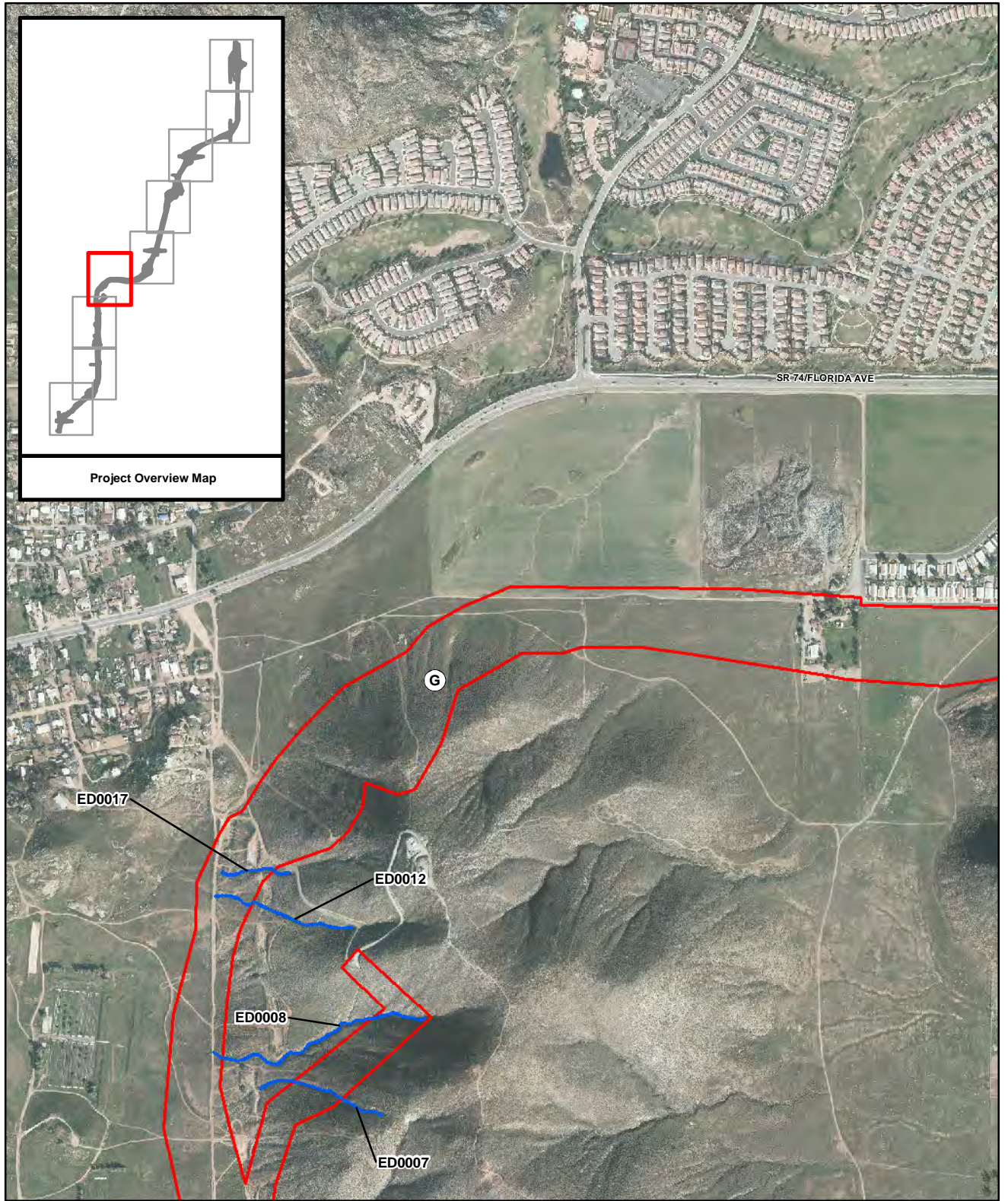
**Figure 4.1-3a
Comparison of MSHCP and
Non-MSHCP Riparian/
Riverine Features Overview**
Western Riverside County MSHCP
Consistency Document Including
Determination of a Biologically
Equivalent or Superior Preservation
State Route 79 Realignment Project

Source: CR - County of Riverside









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LEGEND

— Roadway Segment Match Line

--- Long-Term Traffic Detour

Project Impact Area

Utility Relocation Area

MSHCP Criteria Cell ^{CR}

Non-MSHCP Riparian/Riverine Features

Drainage Ditch

Erosional Drainage

San Jacinto River 100-Year Floodplain

MSHCP Riparian/Riverine Features

Constructed Pond

Hemet Channel

Riparian

Salt Creek Channel

Seasonal Wetland



0 900 Feet

0 200 Meters

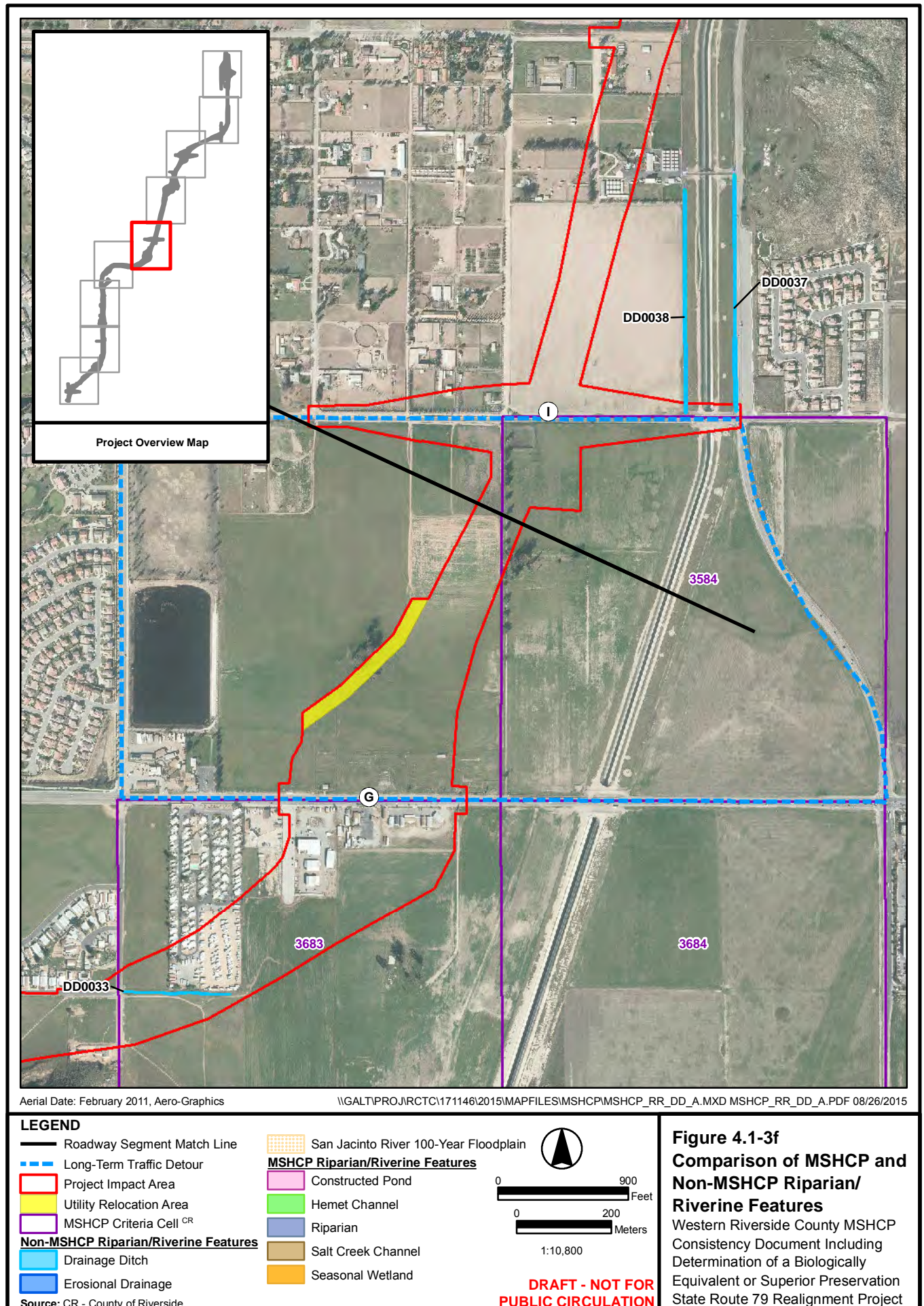
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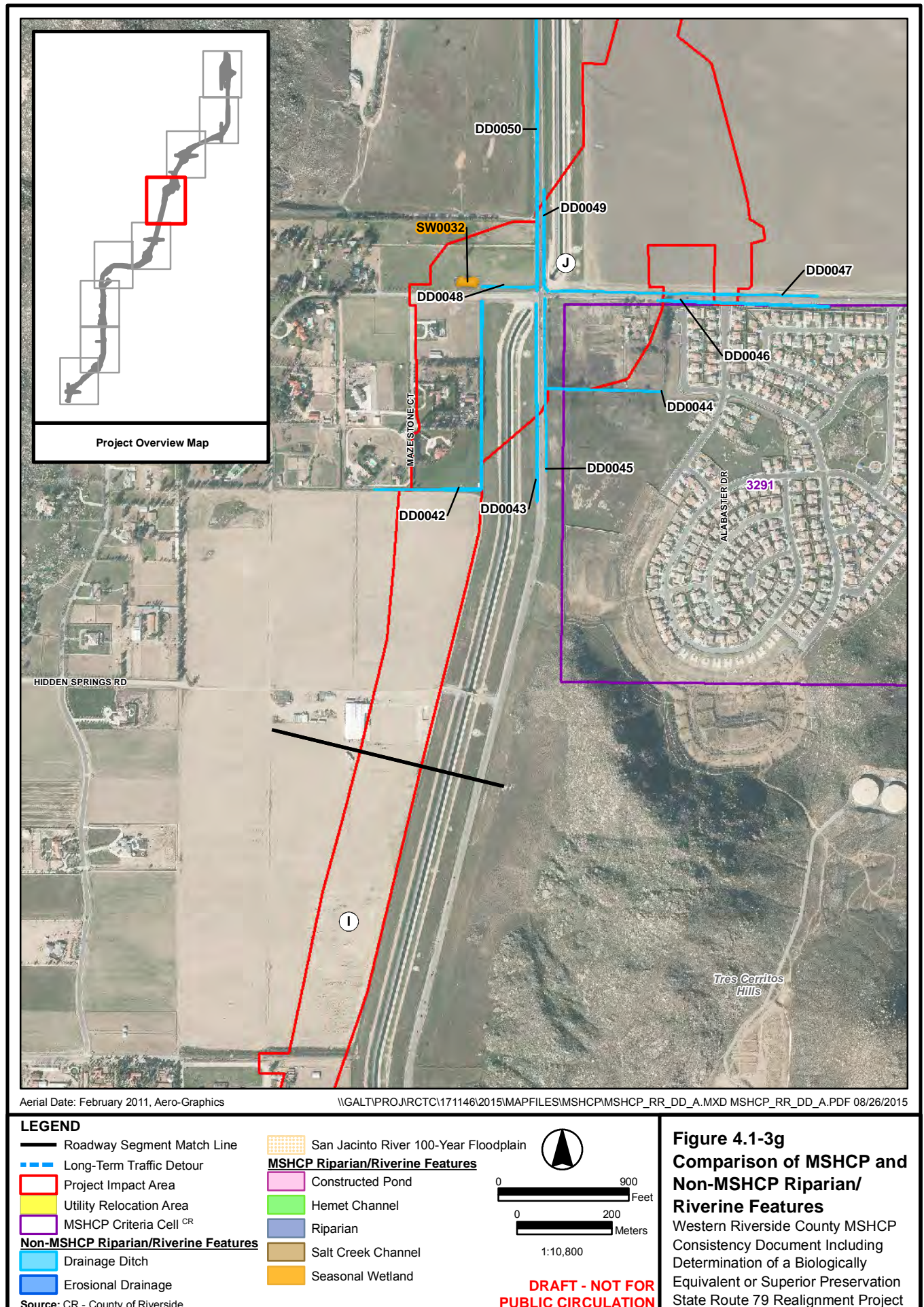
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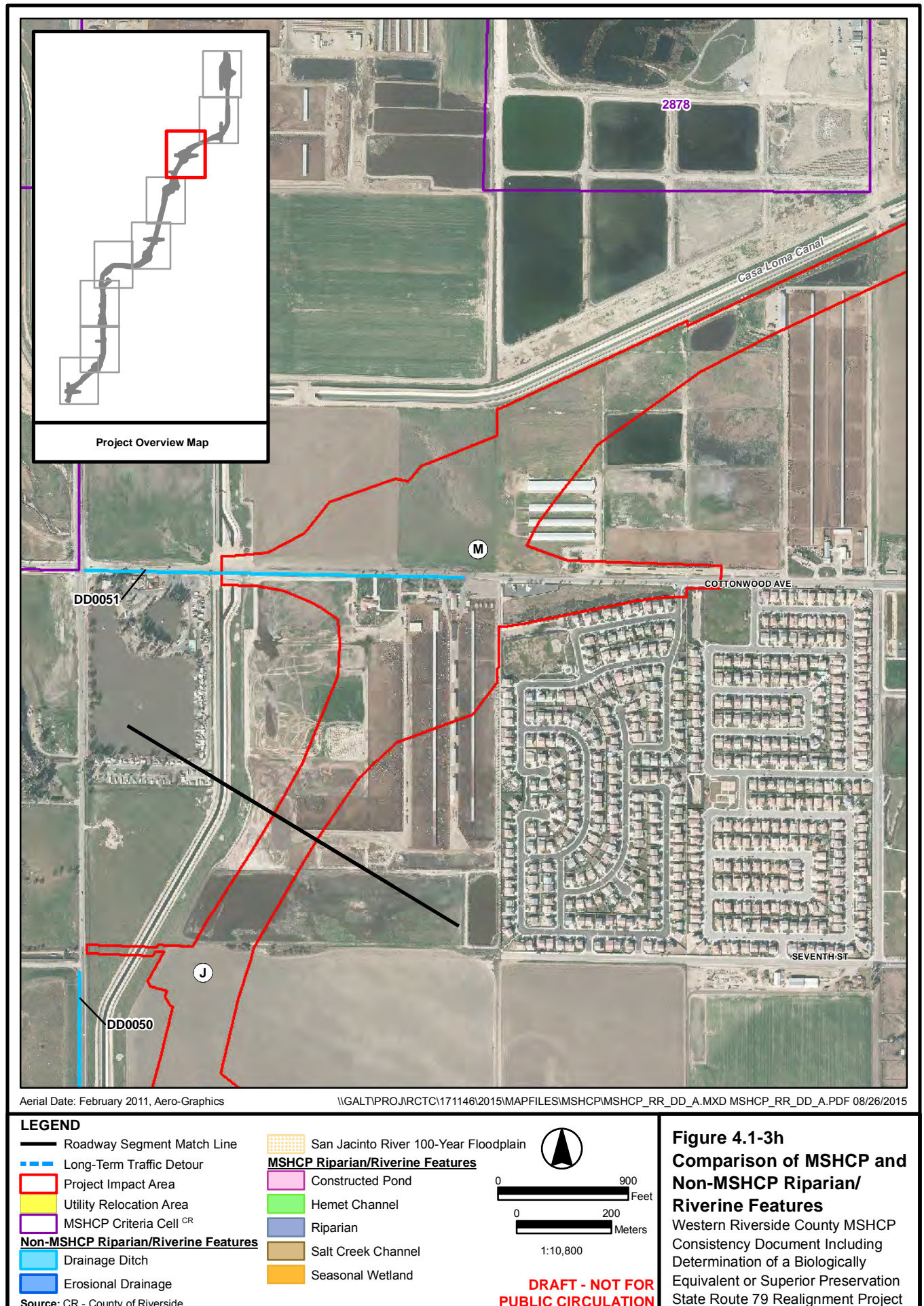
Figure 4.1-3e Comparison of MSHCP and Non-MSHCP Riparian/ Riverine Features

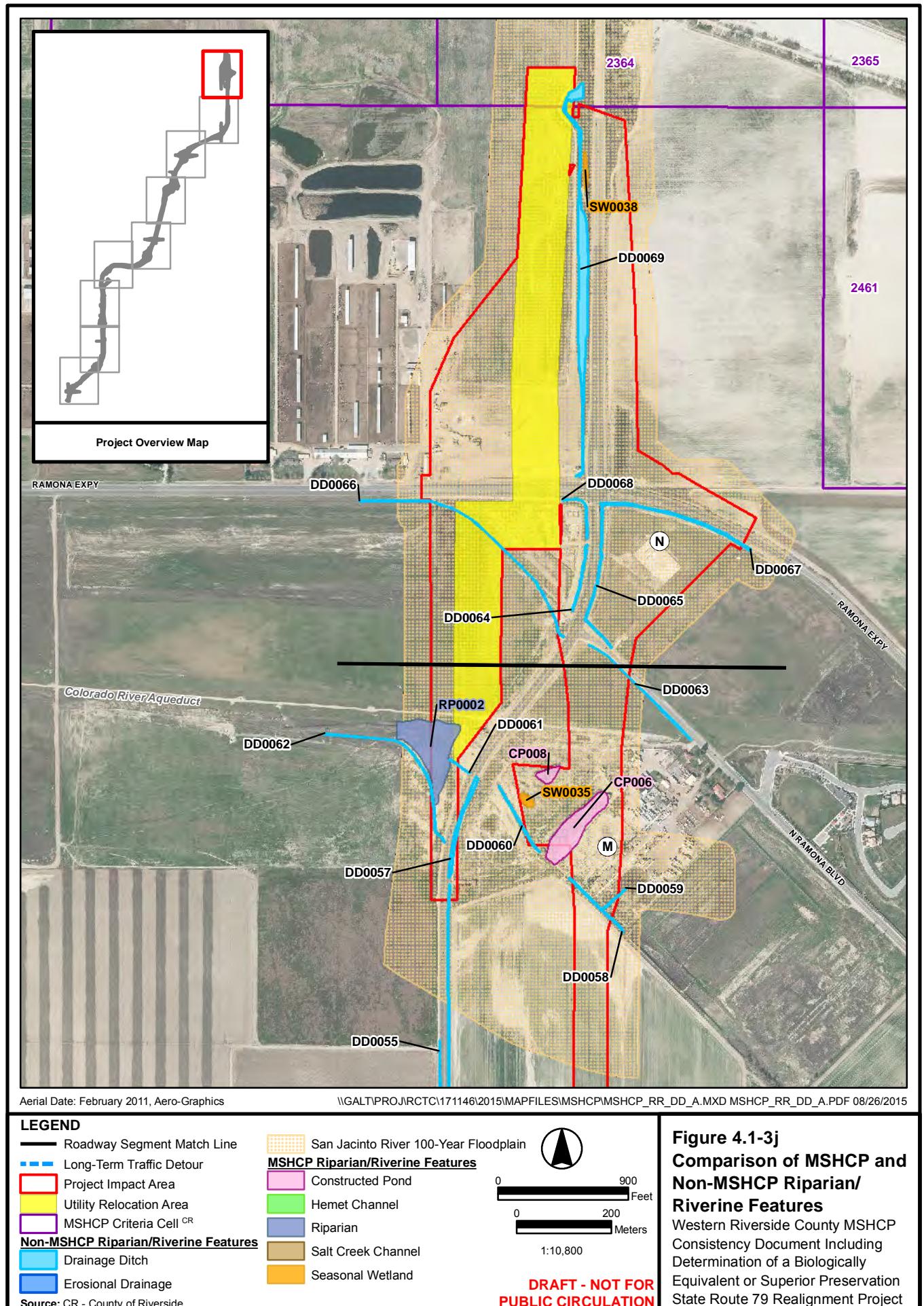
Western Riverside County MSHCP
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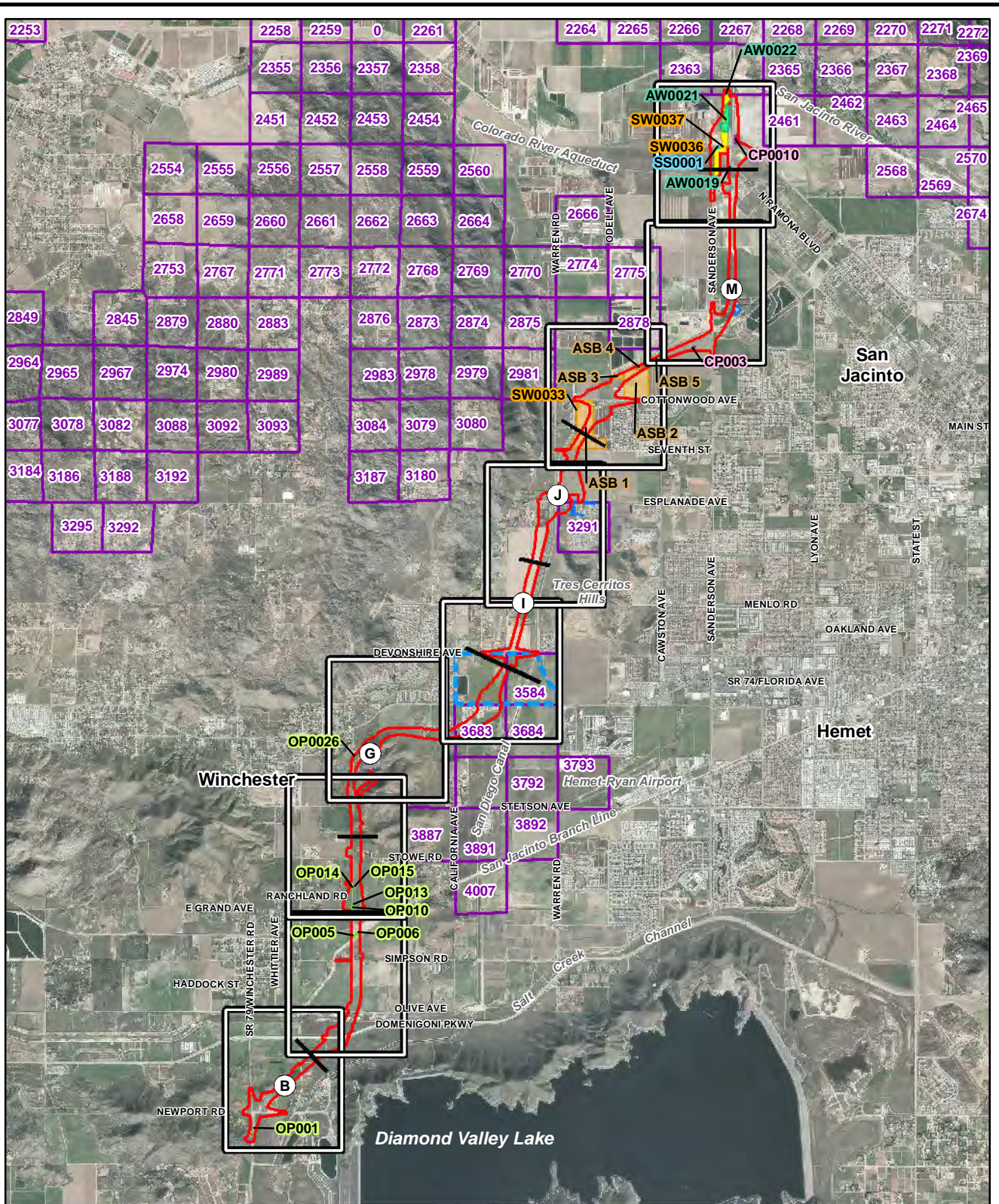
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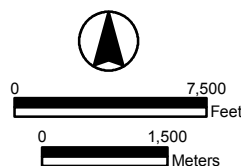
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LEGEND

- | | |
|----------------------------|-------------------------------|
| Roadway Segment Match Line | Agricultural Seasonal Wetland |
| Long-Term Traffic Detour | Agricultural Settling Basin |
| Project Impact Area | Constructed Pond |
| Utility Relocation Area | Other Ponding |
| MSHCP Criteria Cell CR | Seasonal Wetland |
| | Storm Water Retention Basin |
| | Seasonal Swale |

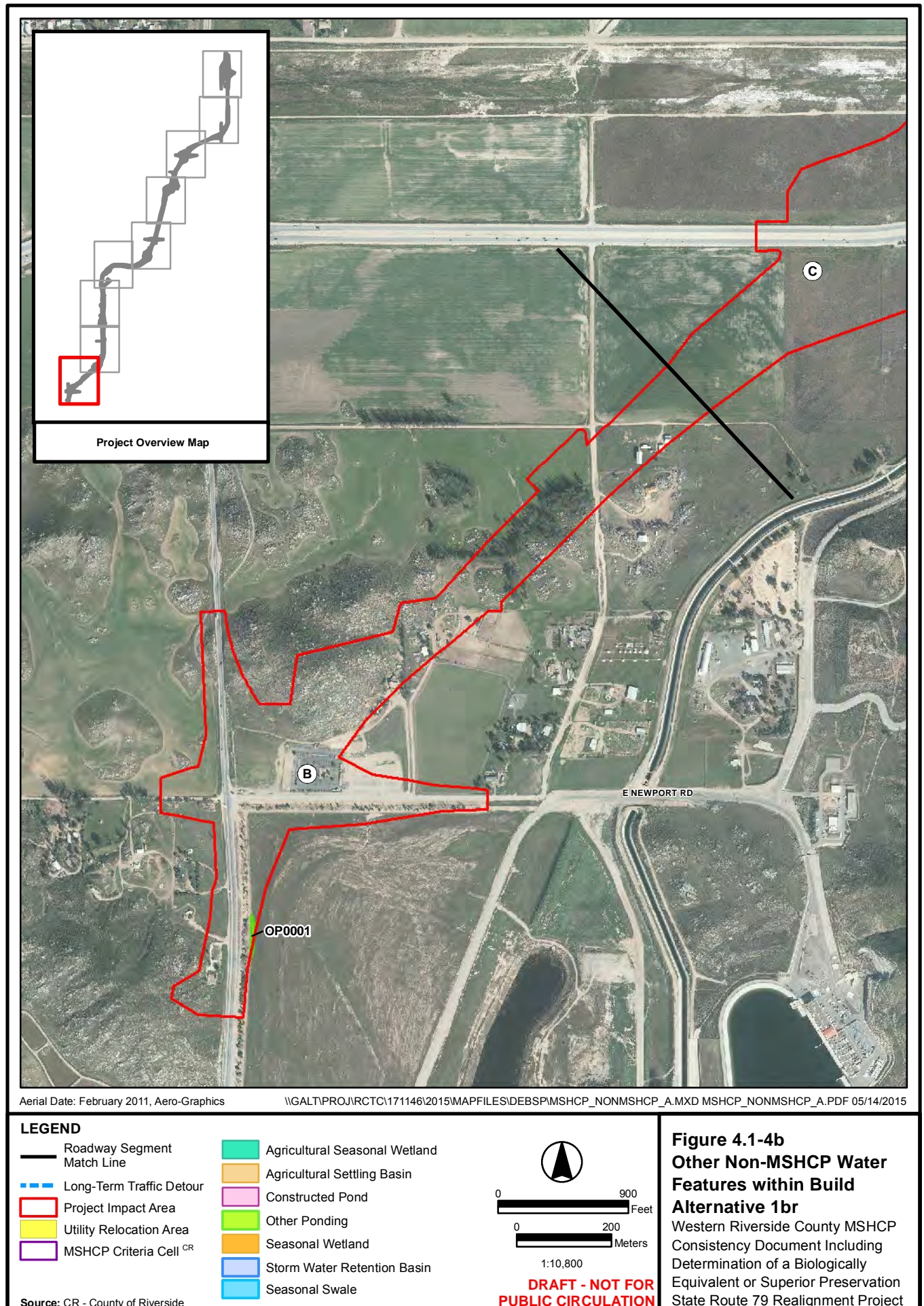
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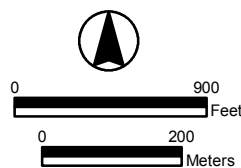
Figure 4.1-4a Other Non-MSHCP Water Features within Build

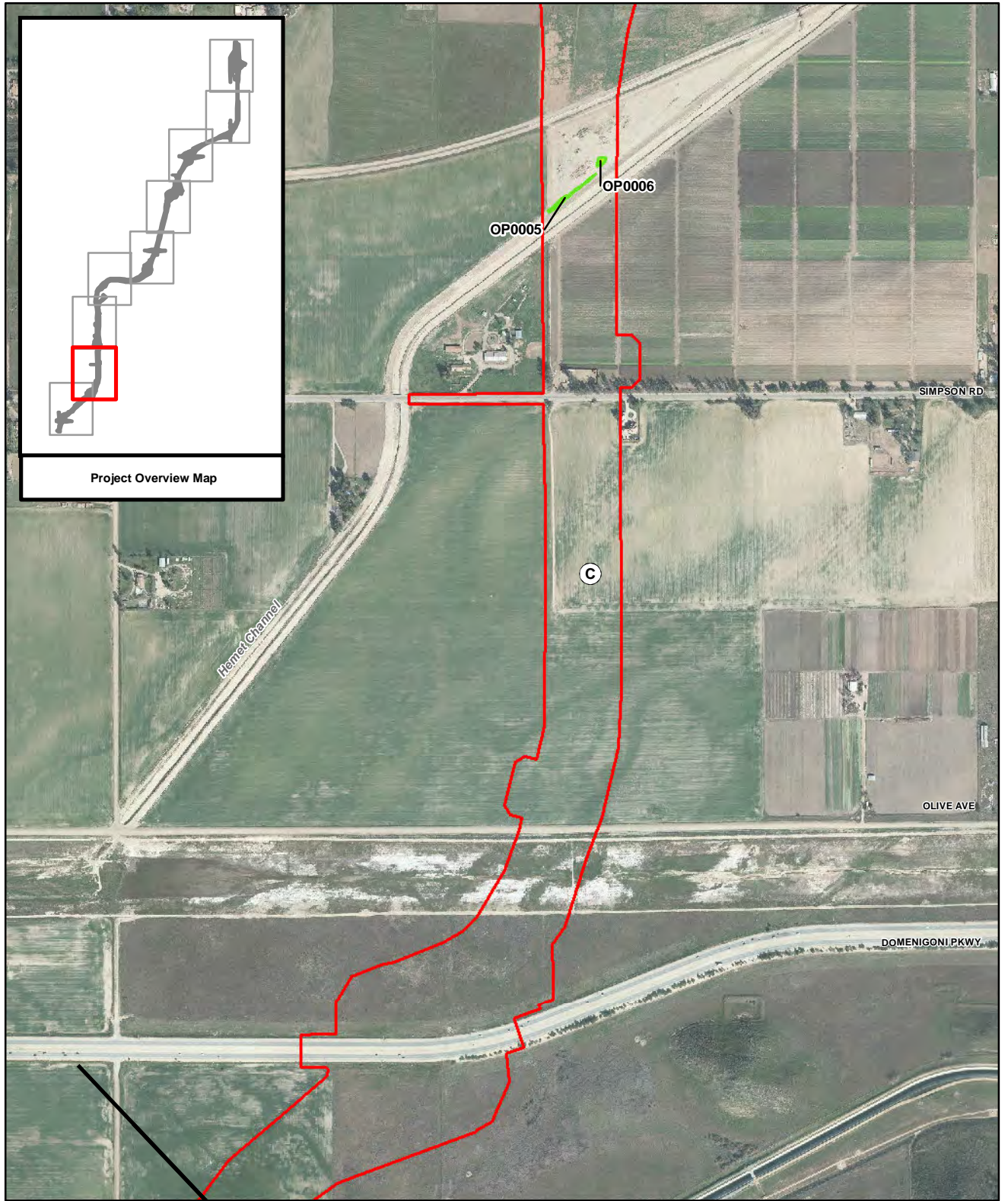
Alternative 1br Overview
Western Riverside County MSHCP
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Aerial Date: February 2011, Aero-Graphics

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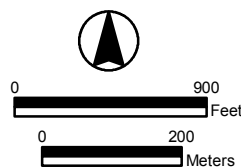
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LEGEND

- | | |
|-------------------------------------|---------------------------------|
| — Roadway Segment | ■ Agricultural Seasonal Wetland |
| --- Match Line | ■ Agricultural Settling Basin |
| - - - Long-Term Traffic Detour | ■ Constructed Pond |
| □ Project Impact Area | ■ Other Ponding |
| ■ Utility Relocation Area | ■ Seasonal Wetland |
| □ MSHCP Criteria Cell ^{CR} | ■ Storm Water Retention Basin |
| | ■ Seasonal Swale |

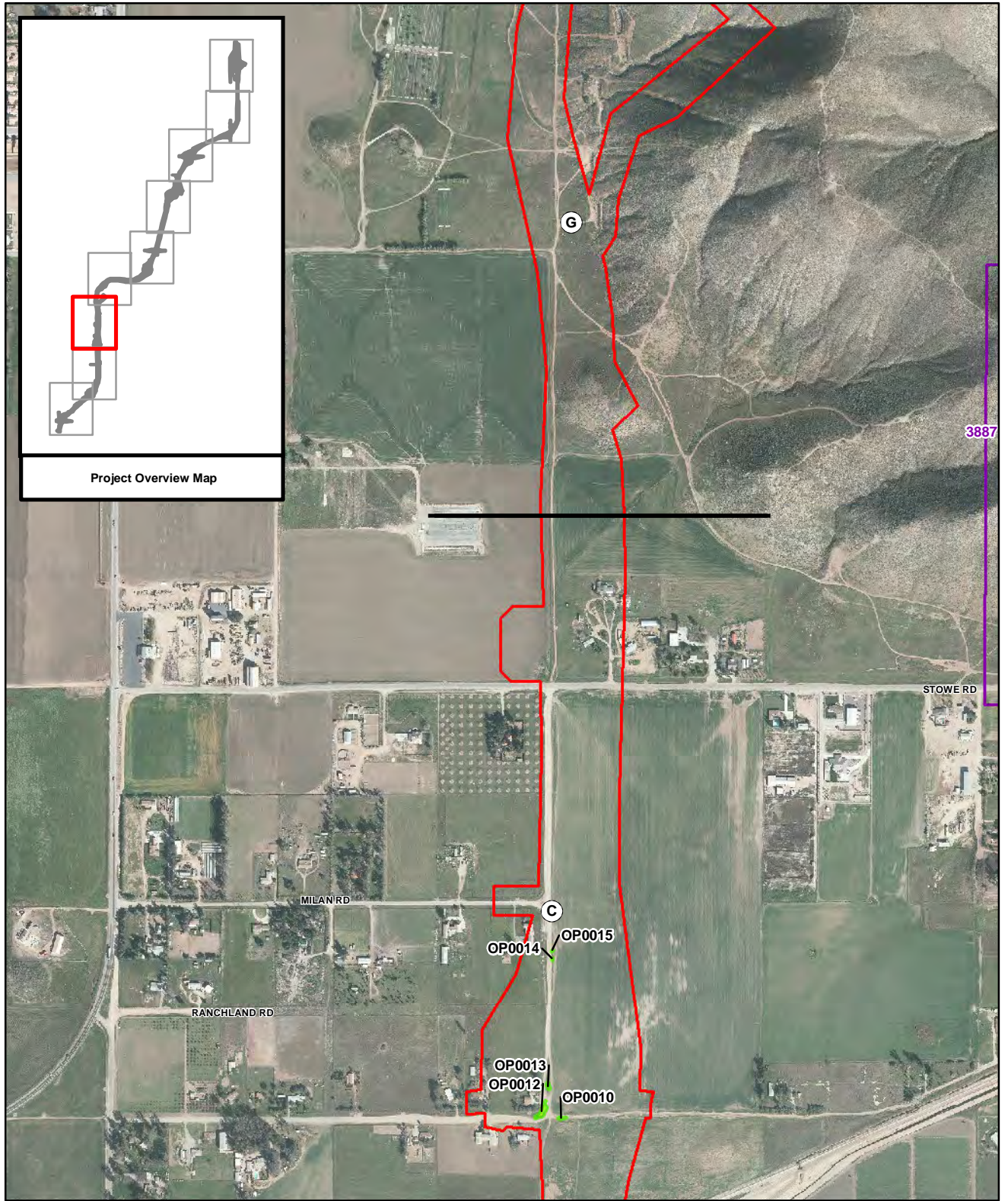
Source: CR - County of Riverside



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Figure 4.1-4c Other Non-MSHCP Water Features within Build Alternative 1br

Western Riverside County MSHCP
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Equivalent or Superior Preservation
State Route 79 Realignment Project



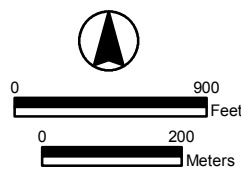
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LEGEND

- | | |
|---|--|
| — Roadway Segment | Agricultural Seasonal Wetland |
| — Match Line | Agricultural Settling Basin |
| --- Long-Term Traffic Detour | Constructed Pond |
| Project Impact Area | Other Ponding |
| Utility Relocation Area | Seasonal Wetland |
| MSHCP Criteria Cell ^{CR} | Storm Water Retention Basin |
| | Seasonal Swale |

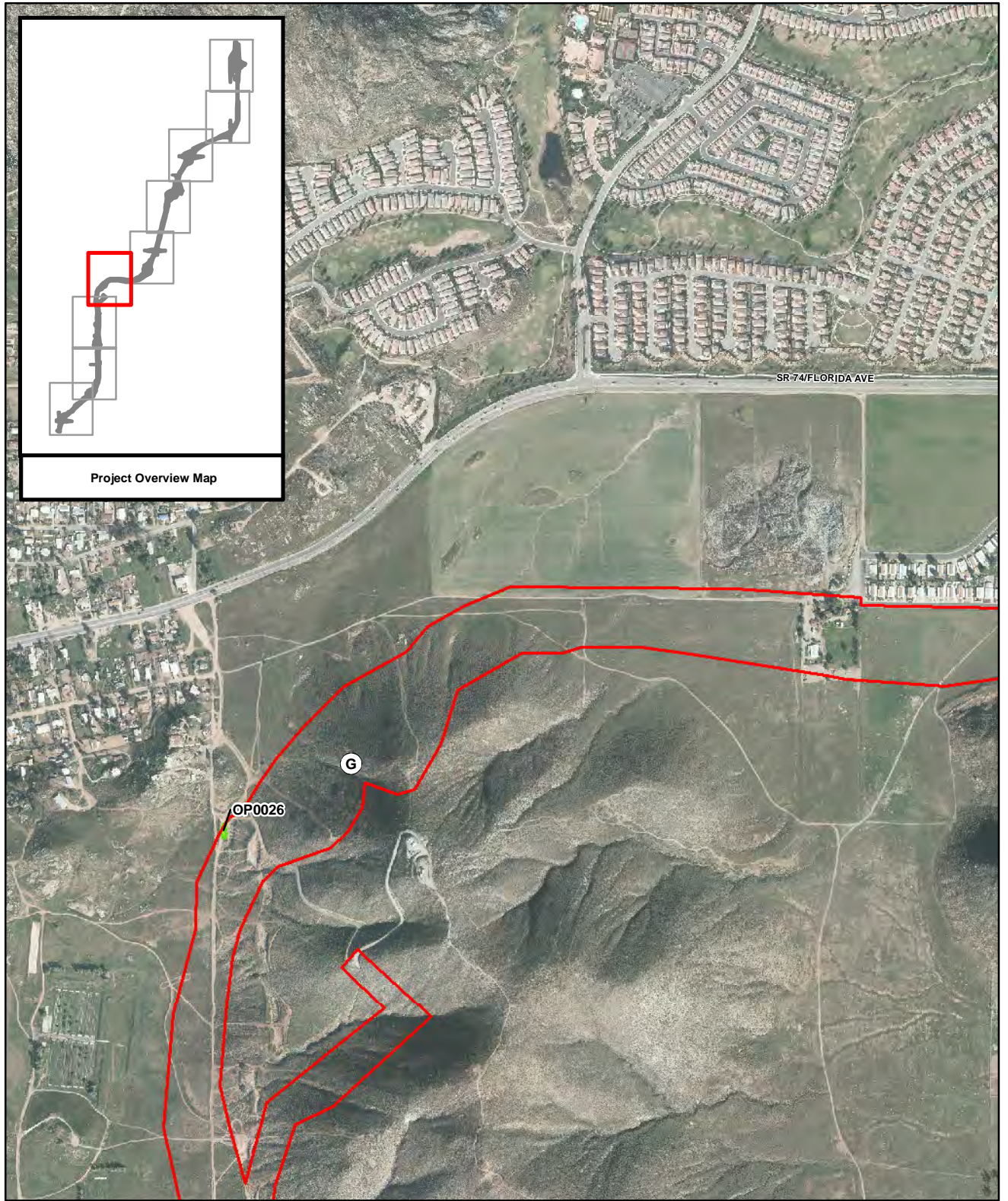
Source: CR - County of Riverside



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Figure 4.1-4d Other Non-MSHCP Water Features within Build Alternative 1br

Western Riverside County MSHCP
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Equivalent or Superior Preservation
State Route 79 Realignment Project



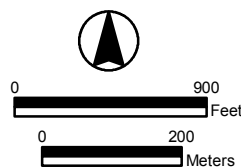
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LEGEND

- | | |
|---|--|
| — Roadway Segment | Agricultural Seasonal Wetland |
| — Match Line | Agricultural Settling Basin |
| --- Long-Term Traffic Detour | Constructed Pond |
| Project Impact Area | Other Ponding |
| Utility Relocation Area | Seasonal Wetland |
| MSHCP Criteria Cell ^{CR} | Storm Water Retention Basin |
| | Seasonal Swale |

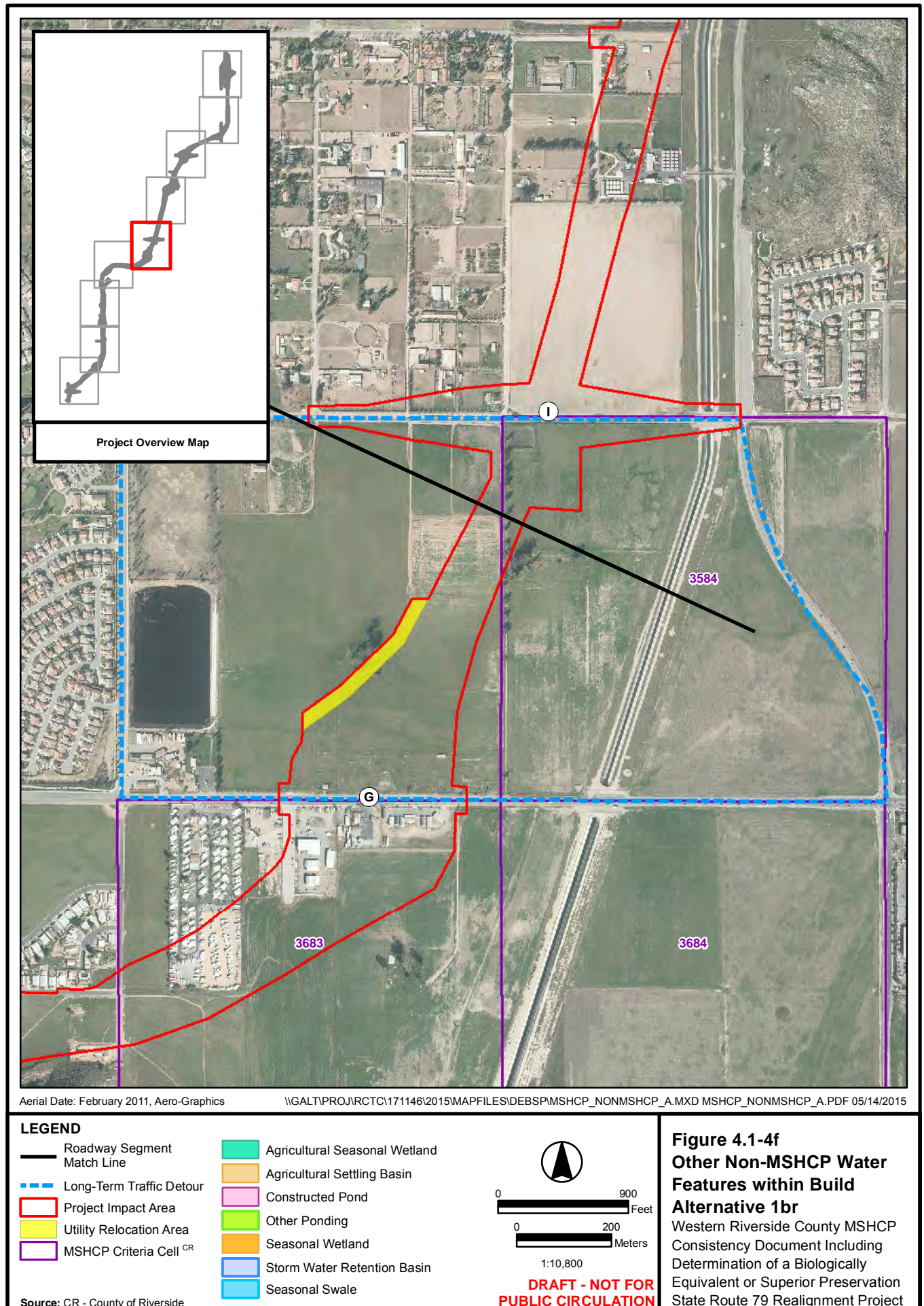
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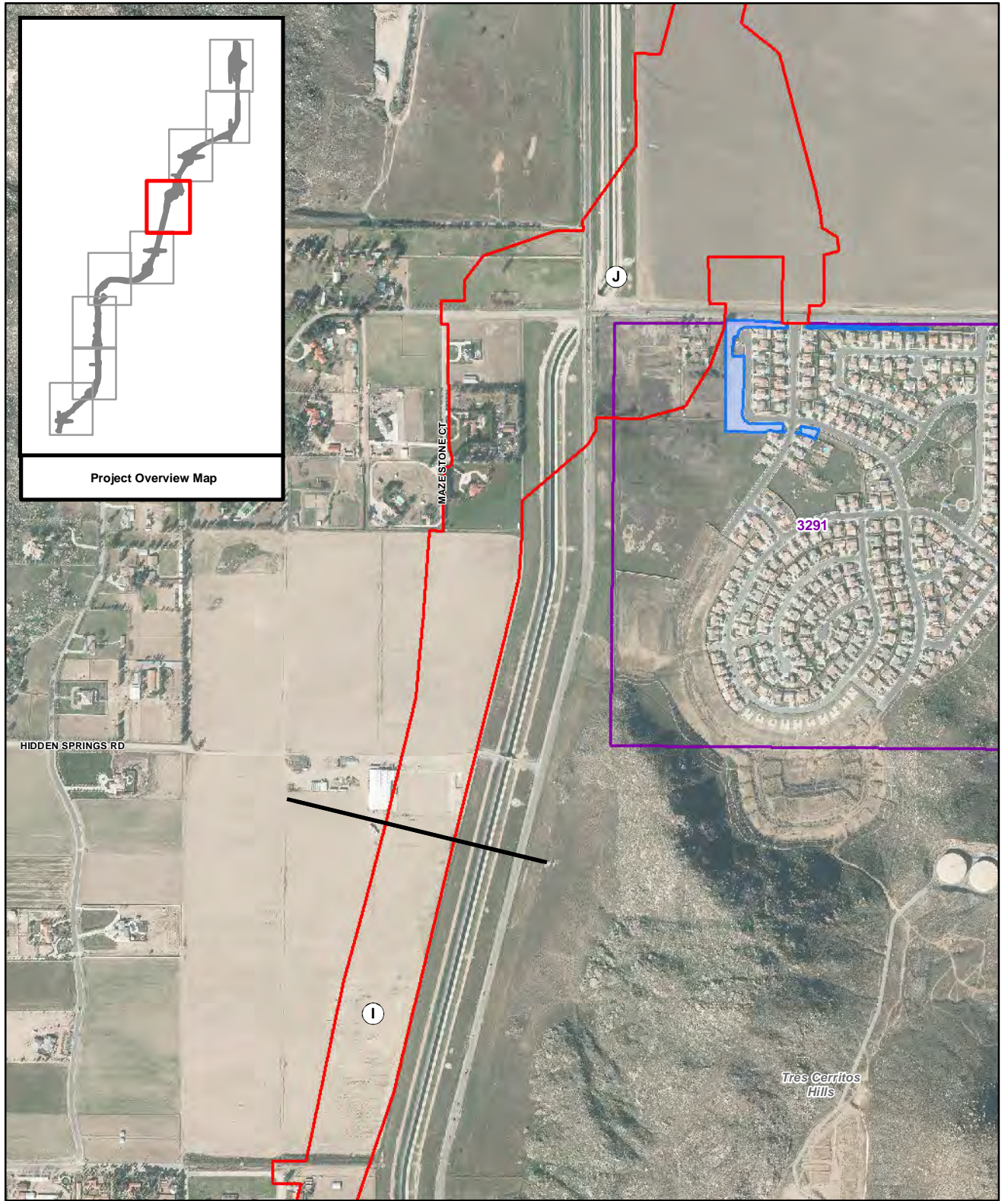


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Figure 4.1-4e Other Non-MSHCP Water Features within Build Alternative 1br

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Equivalent or Superior Preservation
State Route 79 Realignment Project





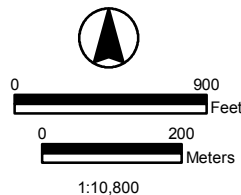
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LEGEND

- | | |
|---|--|
| — Roadway Segment | Agricultural Seasonal Wetland |
| — Match Line | Agricultural Settling Basin |
| Long-Term Traffic Detour | Constructed Pond |
| Project Impact Area | Other Ponding |
| Utility Relocation Area | Seasonal Wetland |
| MSHCP Criteria Cell ^{CR} | Storm Water Retention Basin |
| | Seasonal Swale |

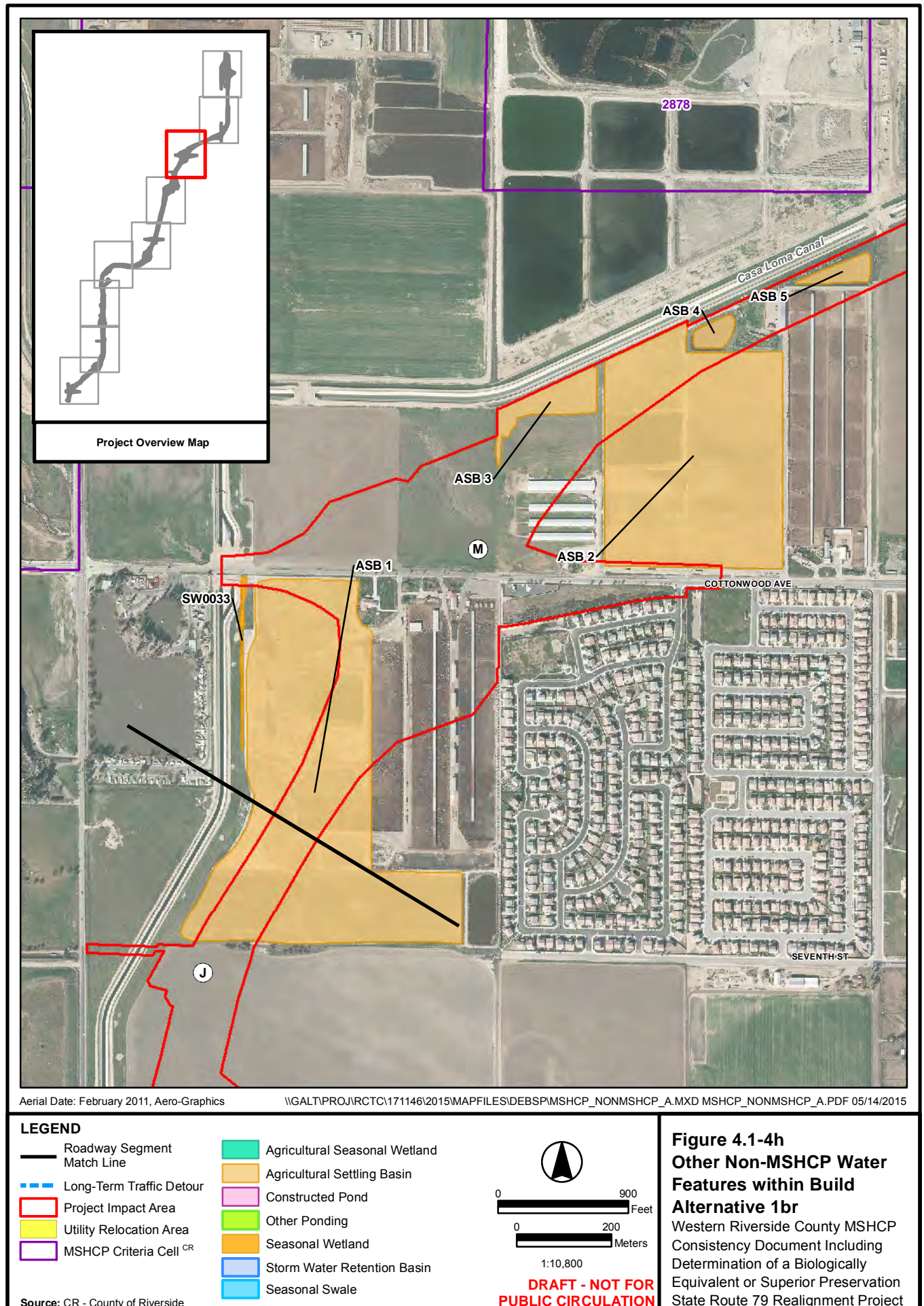
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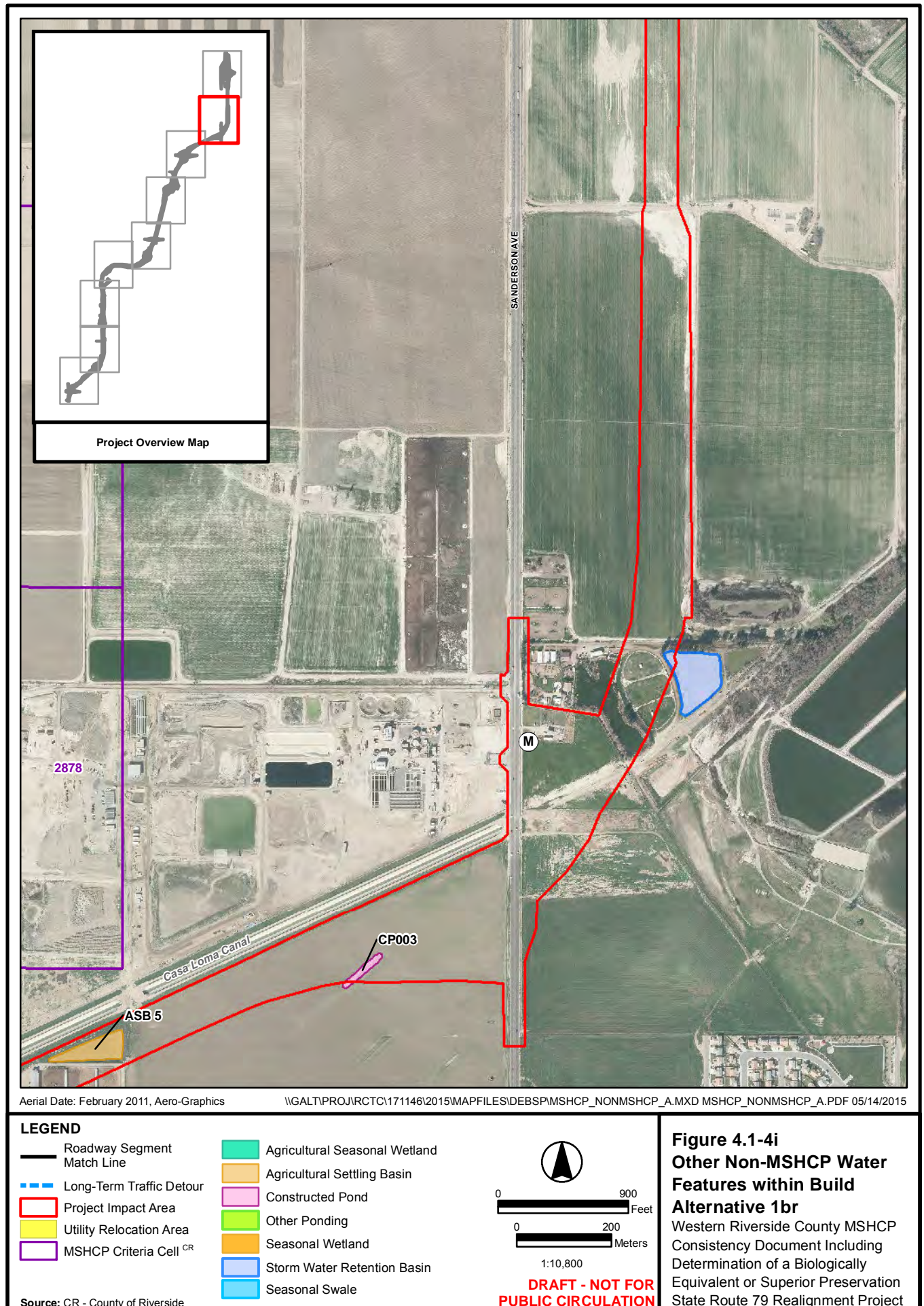


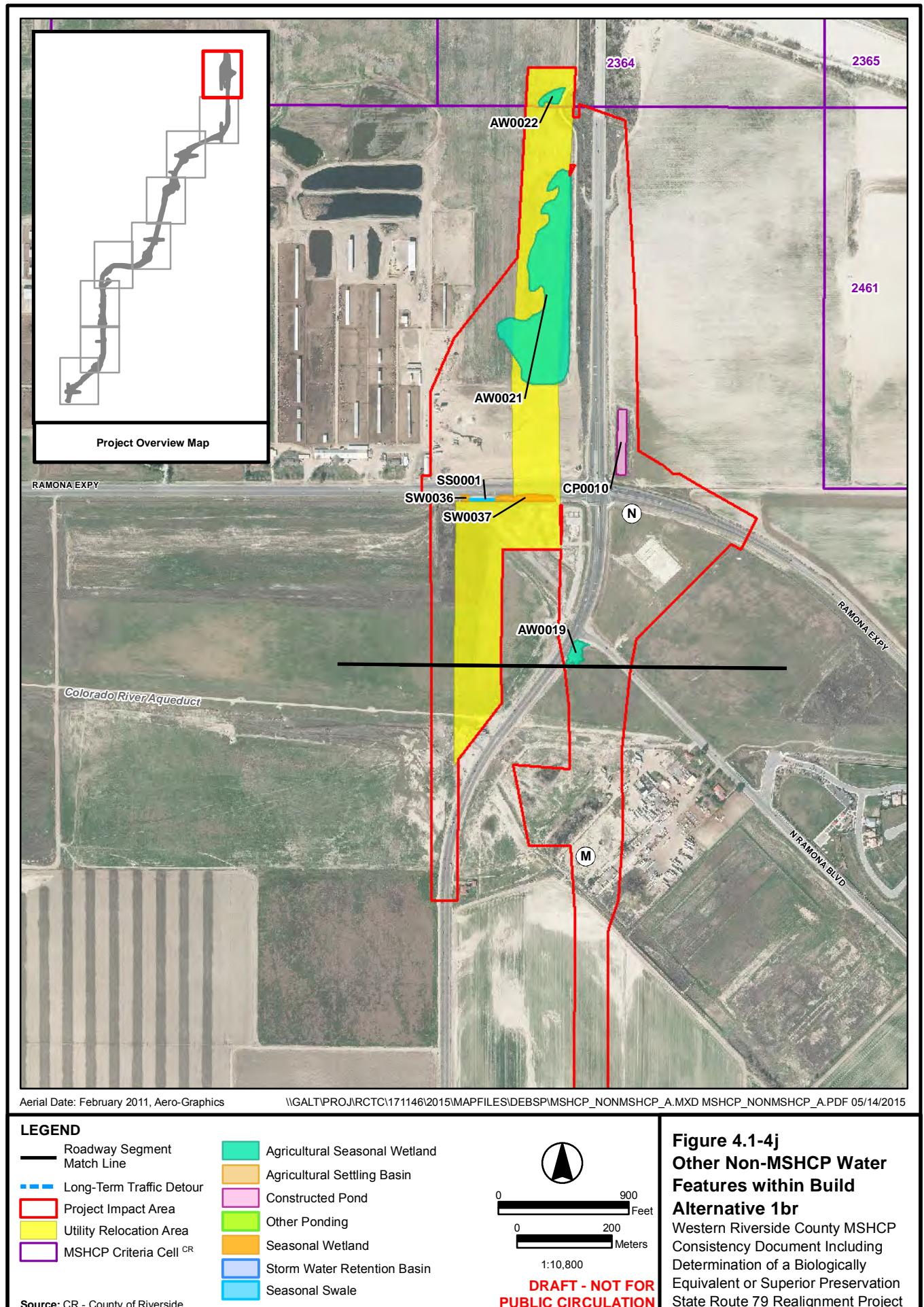
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Figure 4.1-4g Other Non-MSHCP Water Features within Build Alternative 1br

Western Riverside County MSHCP
Consistency Document Including
Determination of a Biologically
Equivalent or Superior Preservation
State Route 79 Realignment Project












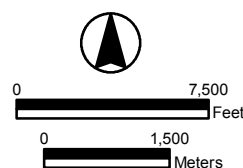


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LEGEND

-  Roadway Segment
 Match Line
 Long-Term Traffic Detour
 Project Impact Area
 Utility Relocation Area
 MSHCP Criteria Cell ^{CR}
 Vernal Pool

Source: CR - County of Riverside

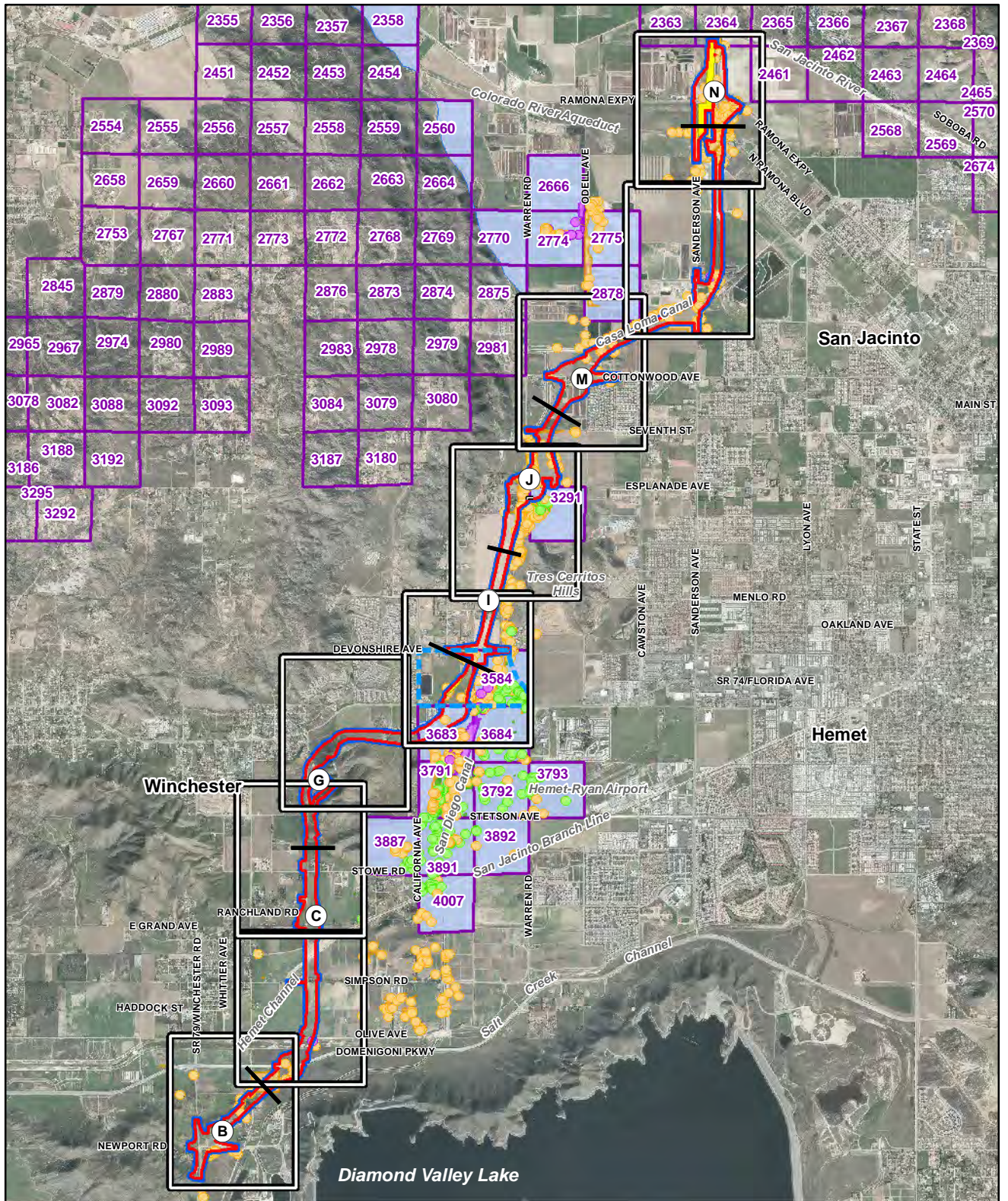


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**Figure 4.1-5
MSHCP Vernal Pools within
Build Alternative 1br**

Western Riverside County MSHCP
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State Route 79 Realignment Project



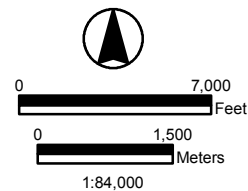
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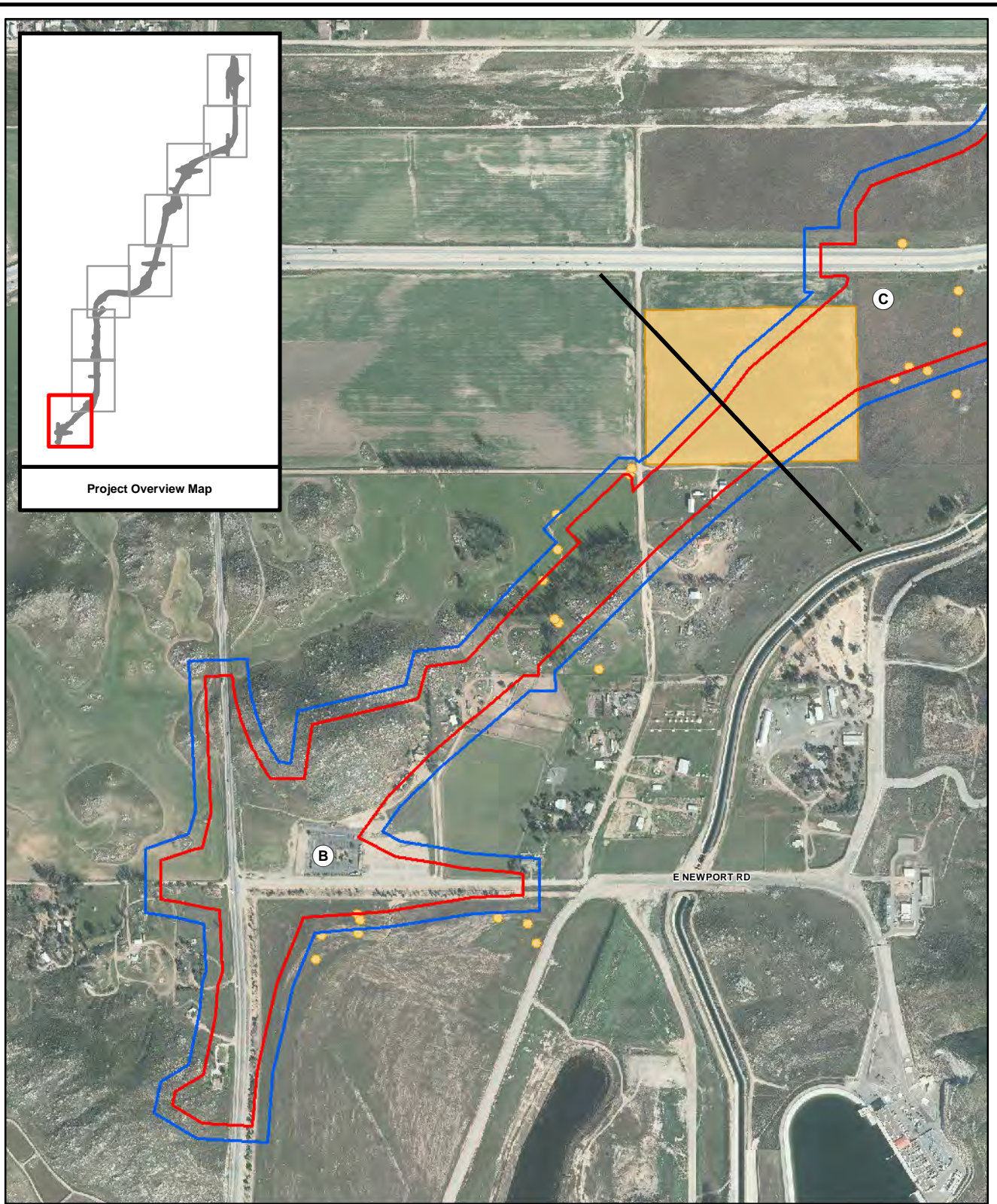
- | | |
|-----------------------------------|---|
| — Roadway Segment | — ESA Fence |
| — Match Line | |
| --- Long-Term Traffic Detour | Area 3 Rare Plant^{CR} |
| Project Impact Area | Smooth tarplant |
| Study Area | Coulter's goldfields |
| Utility Relocation Area | Little mouse tail |
| MSHCP Criteria Cell ^{CR} | Criteria Area 3 Survey Area ^{CR} |

Source: CR - County of Riverside



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Figure 4.3-1a
Criteria Area Species Survey
Area 3 Plants within Build
Alternative 1br Overview
 Western Riverside County MSHCP
 Consistency Document Including
 Determination of a Biologically
 Equivalent or Superior Preservation
 State Route 79 Realignment Project



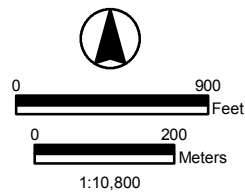
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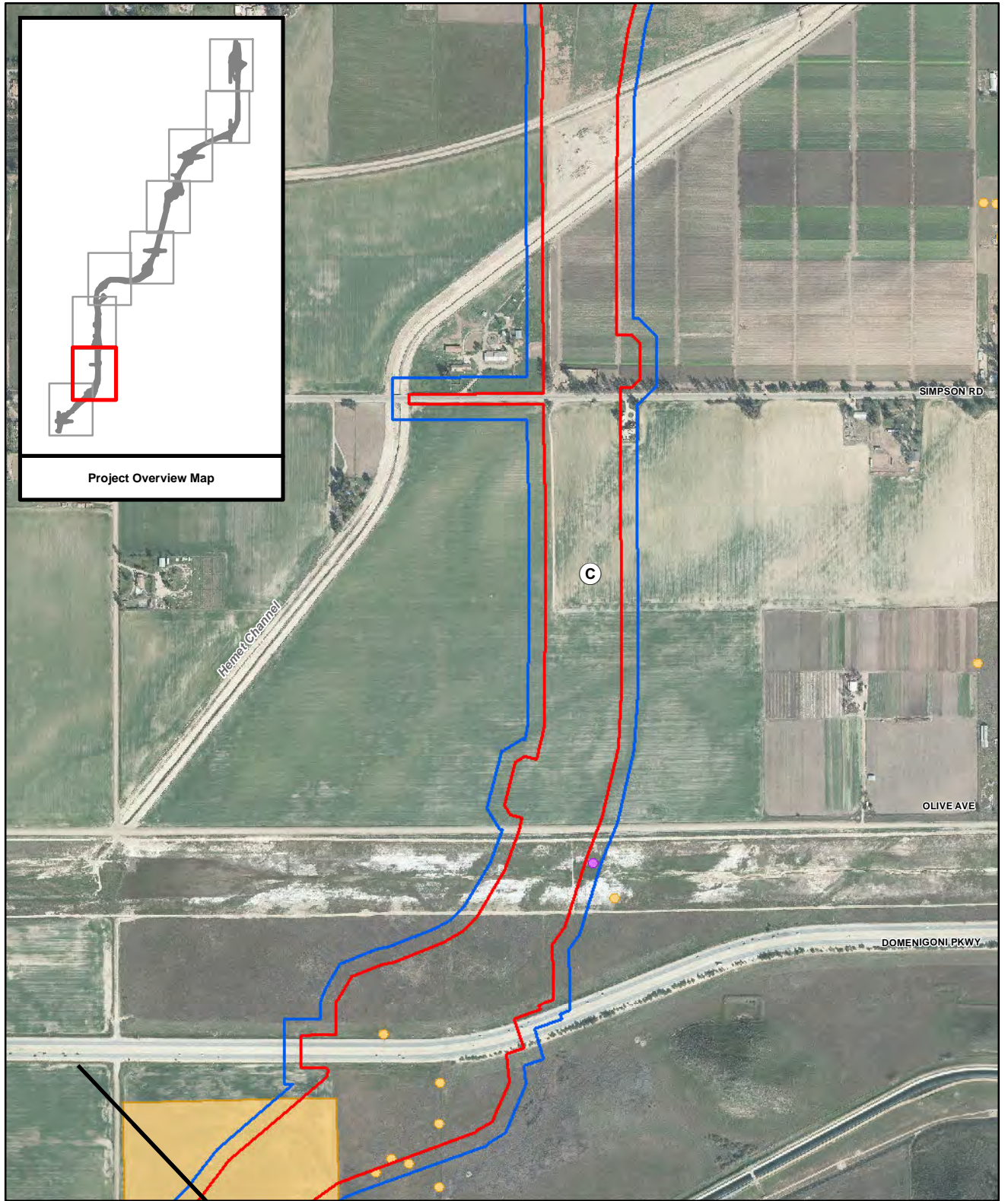
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|-----------------------------------|---|
| — Roadway Segment Match Line | — ESA Fence |
| --- Long-Term Traffic Detour | Area 3 Rare Plant^{CR} |
| Utility Relocation Area | Smooth tarplant |
| Project Impact Area | Coulter's goldfields |
| Study Area | Little mouse-tail |
| MSHCP Criteria Cell ^{CR} | Criteria Area 3 Survey Area ^{CR} |

Source: CR - County of Riverside



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Figure 4.3-1b
Criteria Area Species
Survey Area 3 Plants within
Build Alternative 1br
 Western Riverside County MSHCP
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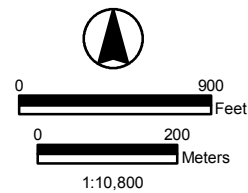
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LEGEND

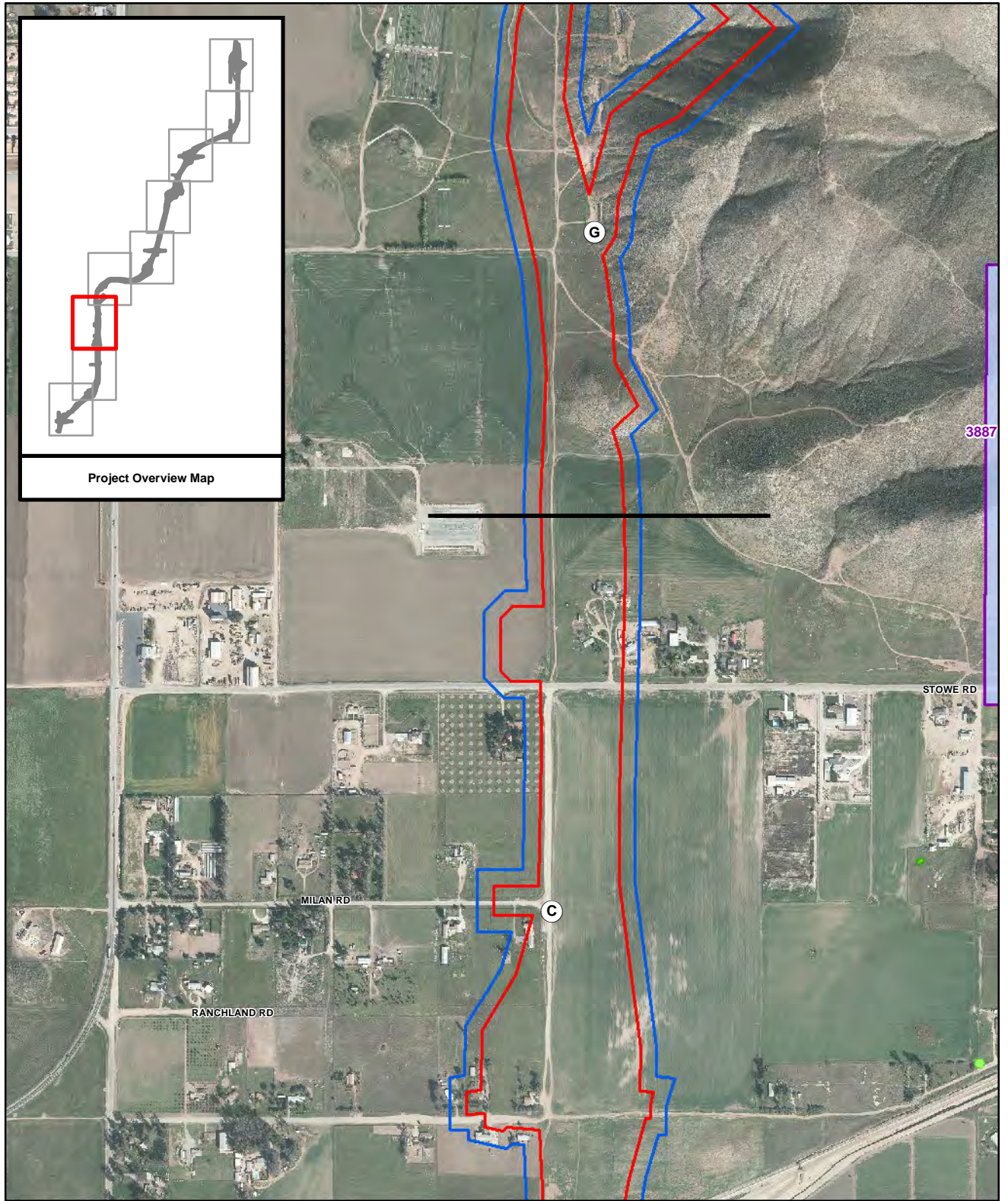
— Roadway Segment Match Line	— ESA Fence
- - - Long-Term Traffic Detour	Area 3 Rare Plant^{CR}
Utility Relocation Area	Smooth tarplant
Project Impact Area	Coulter's goldfields
Study Area	Little mouse-tail
MSHCP Criteria Cell ^{CR}	Criteria Area 3 Survey Area ^{CR}

Source: CR - County of Riverside



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Figure 4.3-1c
Criteria Area Species
Survey Area 3 Plants within
Build Alternative 1br
 Western Riverside County MSHCP
 Consistency Document Including
 Determination of a Biologically
 Equivalent or Superior Preservation
 State Route 79 Realignment Project



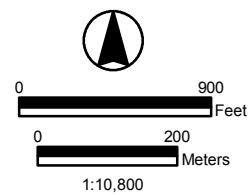
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LEGEND

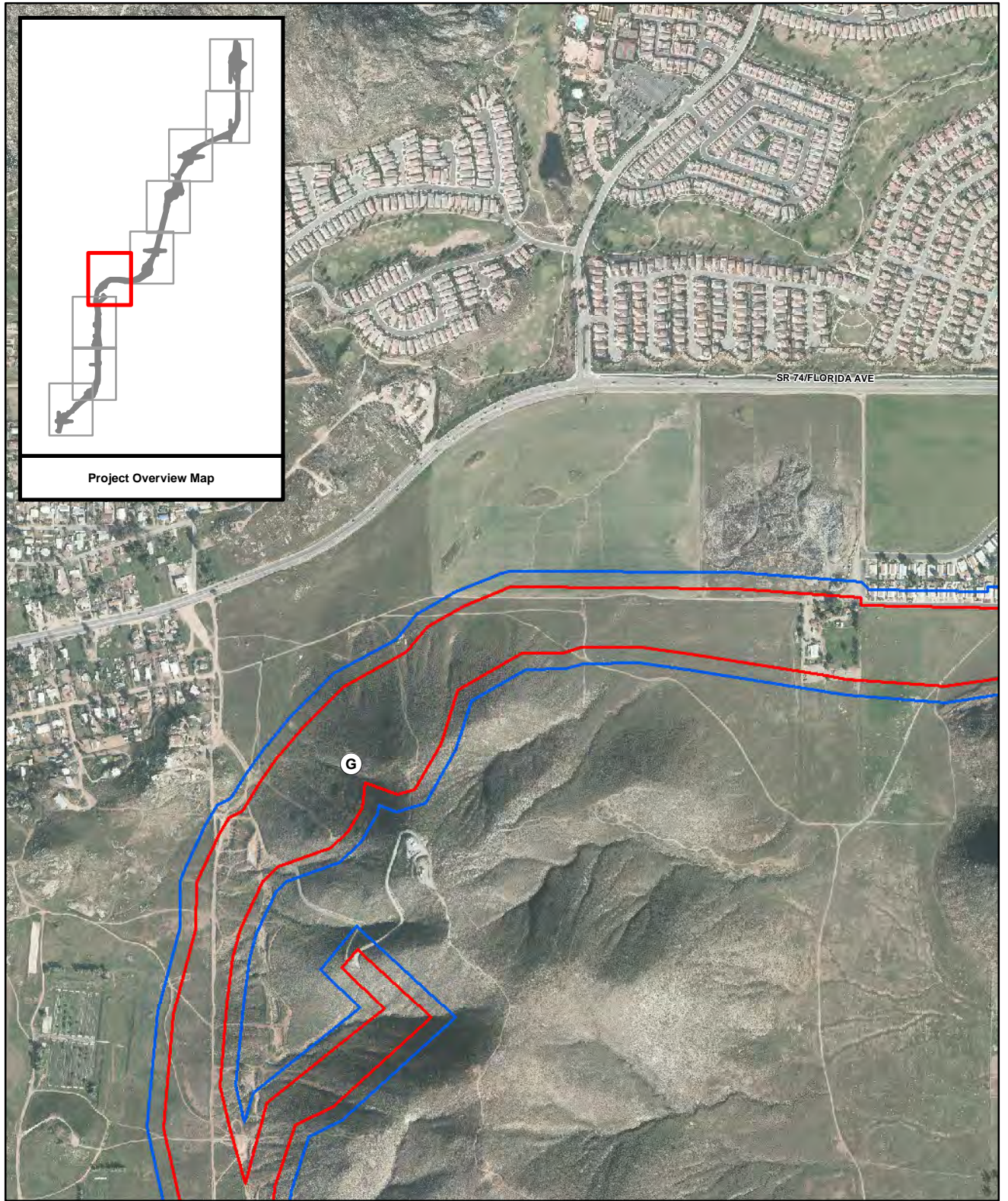
- | | |
|-----------------------------------|---|
| — Roadway Segment Match Line | — ESA Fence |
| --- Long-Term Traffic Detour | Area 3 Rare Plant^{CR} |
| Utility Relocation Area | Smooth tarplant |
| Project Impact Area | Coulter's goldfields |
| Study Area | Little mouse-tail |
| MSHCP Criteria Cell ^{CR} | Criteria Area 3 Survey Area ^{CR} |

Source: CR - County of Riverside



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Figure 4.3-1d
Criteria Area Species
Survey Area 3 Plants within
Build Alternative 1br
 Western Riverside County MSHCP
 Consistency Document Including
 Determination of a Biologically
 Equivalent or Superior Preservation
 State Route 79 Realignment Project



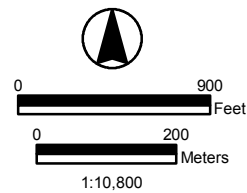
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LEGEND

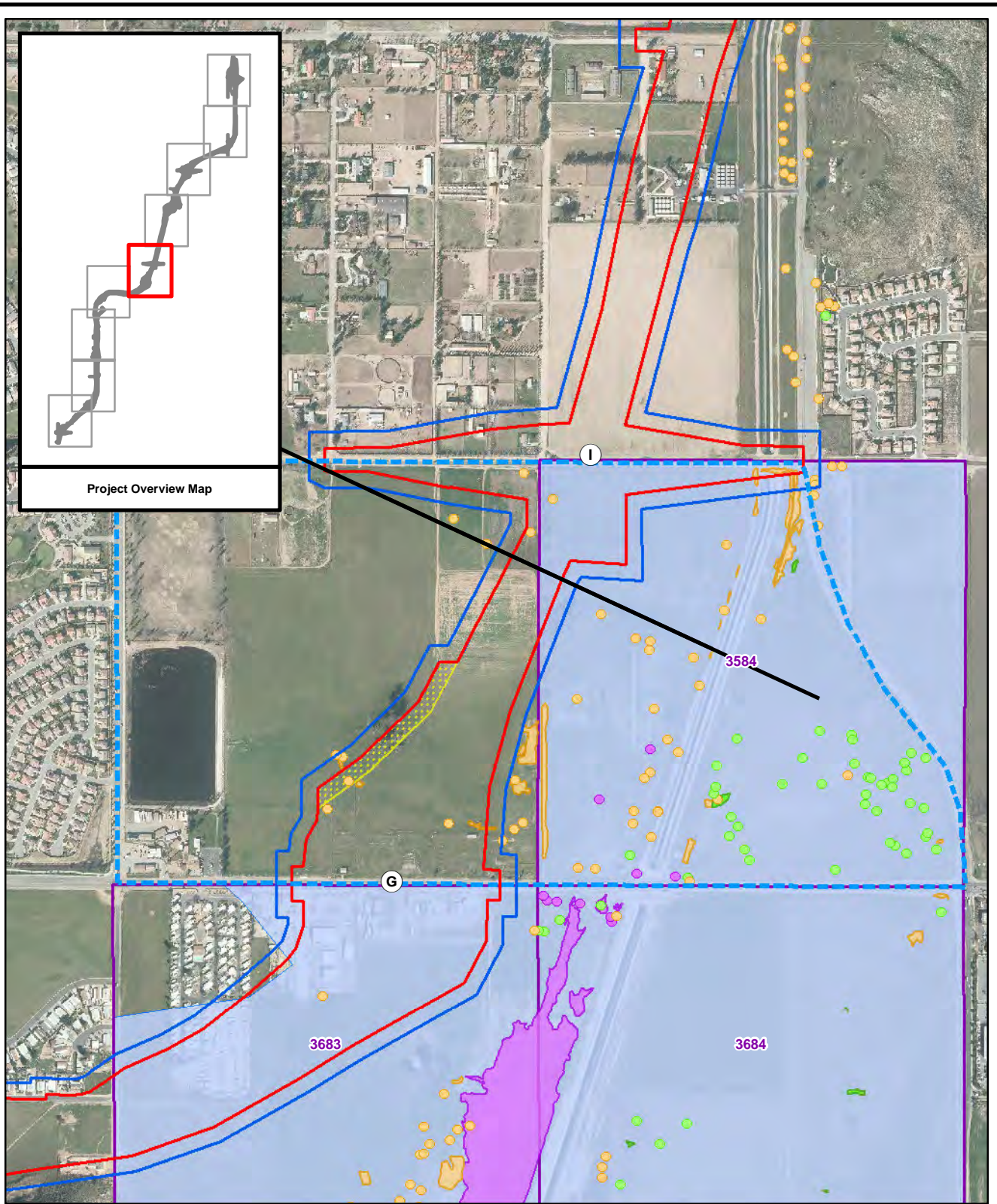
- | | |
|-----------------------------------|---|
| — Roadway Segment
Match Line | — ESA Fence |
| --- Long-Term Traffic Detour | Area 3 Rare Plant^{CR} |
| Utility Relocation Area | Smooth tarplant |
| Project Impact Area | Coulter's goldfields |
| Study Area | Little mouse-tail |
| MSHCP Criteria Cell ^{CR} | Criteria Area 3 Survey Area ^{CR} |

Source: CR - County of Riverside



**DRAFT - NOT FOR
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Figure 4.3-1e
Criteria Area Species
Survey Area 3 Plants within
Build Alternative 1br
 Western Riverside County MSHCP
 Consistency Document Including
 Determination of a Biologically
 Equivalent or Superior Preservation
 State Route 79 Realignment Project



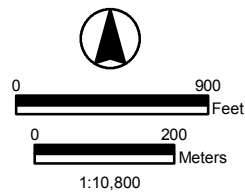
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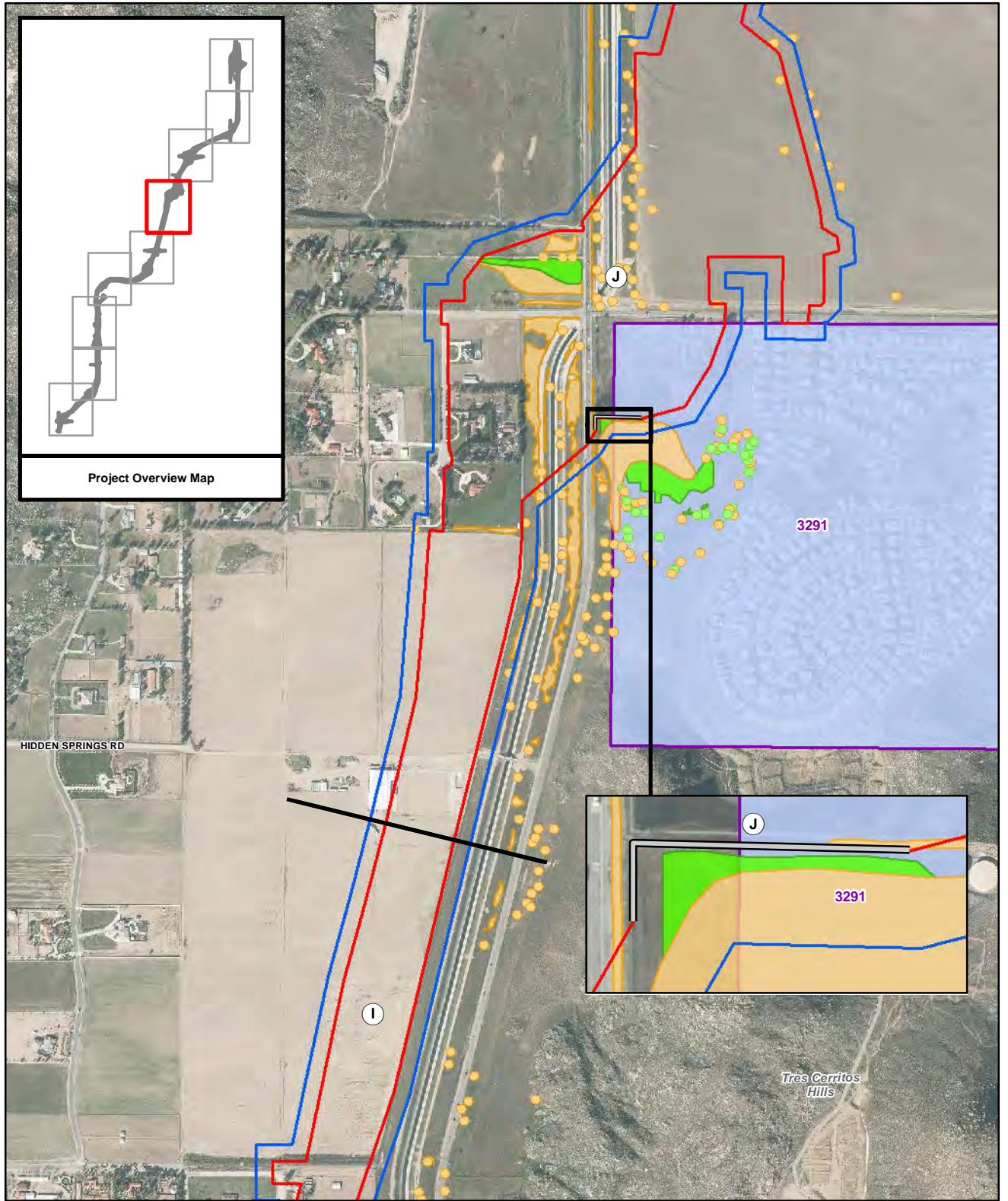
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|-----------------------------------|---|
| — Roadway Segment | — ESA Fence |
| - - - Match Line | |
| - - - Long-Term Traffic Detour | Area 3 Rare Plant^{CR} |
| Utility Relocation Area | Smooth tarplant |
| Project Impact Area | Coulter's goldfields |
| Study Area | Little mouse-tail |
| MSHCP Criteria Cell ^{CR} | Criteria Area 3 Survey Area ^{CR} |

Source: CR - County of Riverside



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PUBLIC CIRCULATION**

Figure 4.3-1f
Criteria Area Species
Survey Area 3 Plants within
Build Alternative 1br
 Western Riverside County MSHCP
 Consistency Document Including
 Determination of a Biologically
 Equivalent or Superior Preservation
 State Route 79 Realignment Project



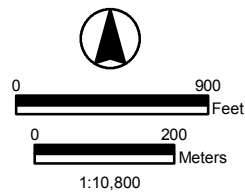
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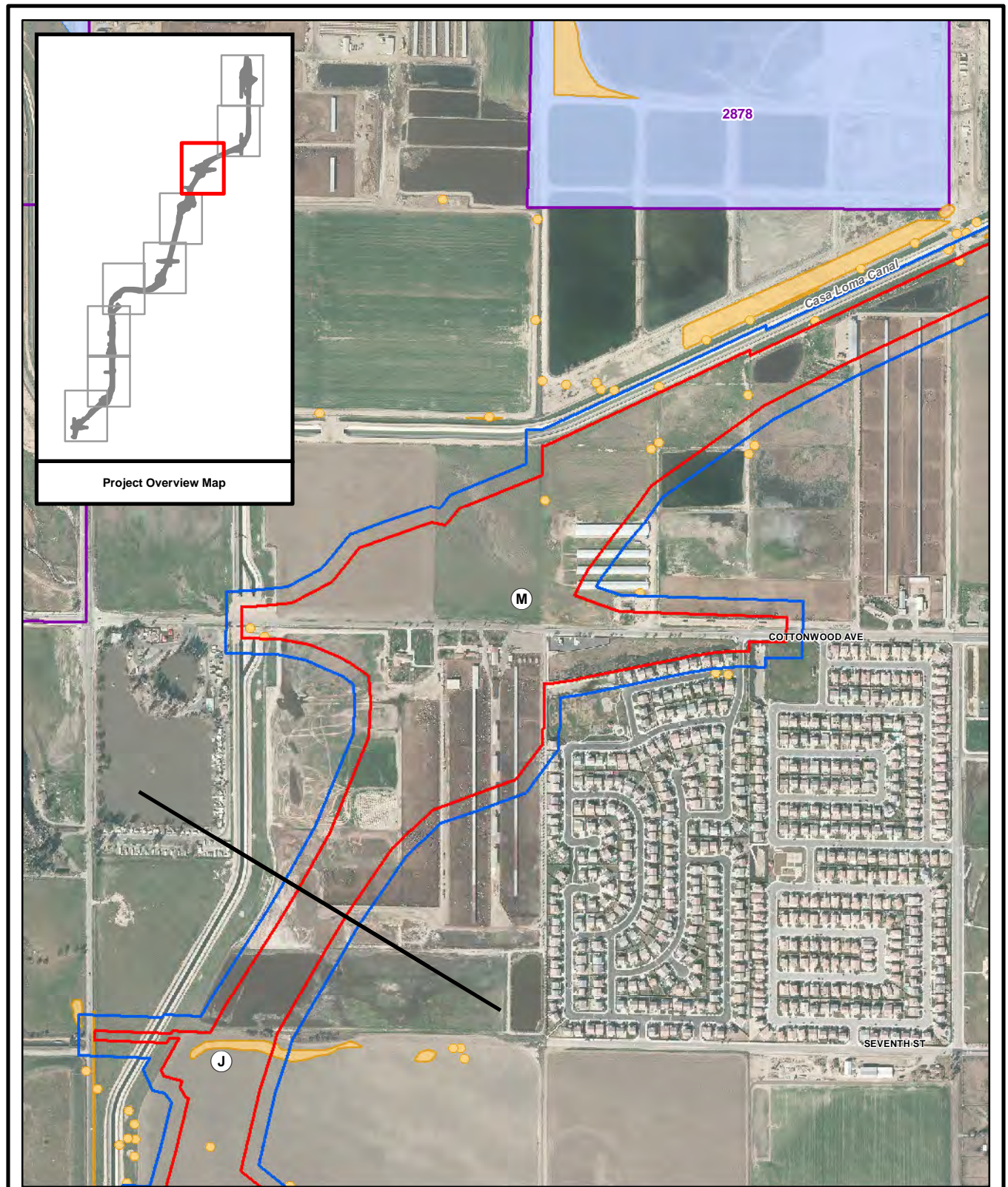
— Roadway Segment Match Line	— ESA Fence
--- Long-Term Traffic Detour	Area 3 Rare Plant^{CR}
Utility Relocation Area	Smooth tarplant
Project Impact Area	Coulter's goldfields
Study Area	Little mouse-tail
MSHCP Criteria Cell ^{CR}	Criteria Area 3 Survey Area ^{CR}

Source: CR - County of Riverside



**DRAFT - NOT FOR
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Figure 4.3-1g
Criteria Area Species
Survey Area 3 Plants within
Build Alternative 1br
 Western Riverside County MSHCP
 Consistency Document Including
 Determination of a Biologically
 Equivalent or Superior Preservation
 State Route 79 Realignment Project



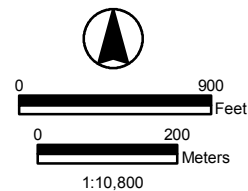
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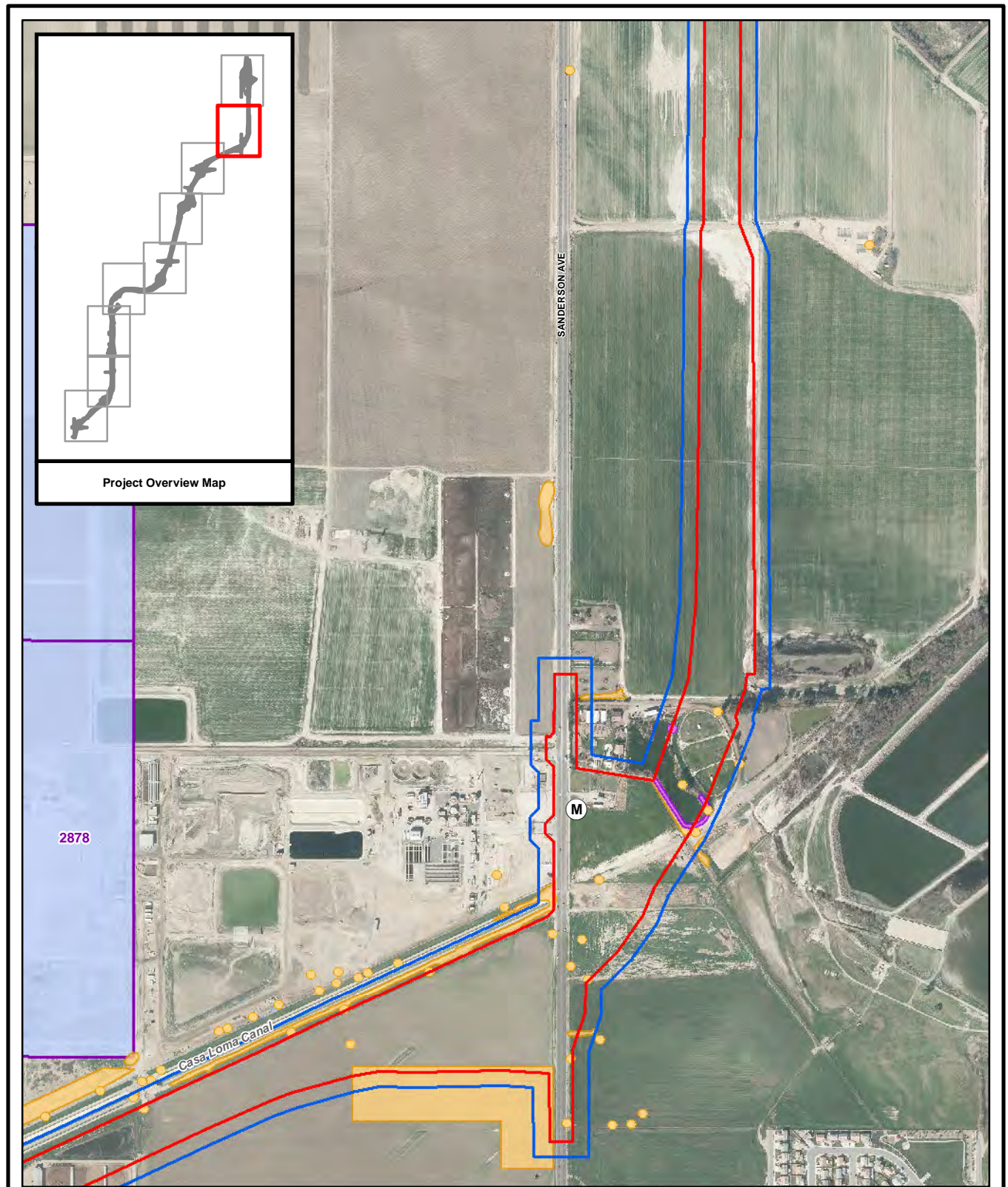
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|-----------------------------------|---|
| — Roadway Segment Match Line | — ESA Fence |
| --- Long-Term Traffic Detour | Area 3 Rare Plant^{CR} |
| Utility Relocation Area | Smooth tarplant |
| Project Impact Area | Coulter's goldfields |
| Study Area | Little mouse-tail |
| MSHCP Criteria Cell ^{CR} | Criteria Area 3 Survey Area ^{CR} |

Source: CR - County of Riverside



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Figure 4.3-1h
Criteria Area Species
Survey Area 3 Plants within
Build Alternative 1br
 Western Riverside County MSHCP
 Consistency Document Including
 Determination of a Biologically
 Equivalent or Superior Preservation
 State Route 79 Realignment Project

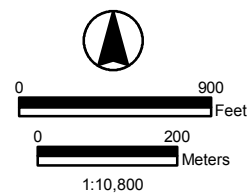


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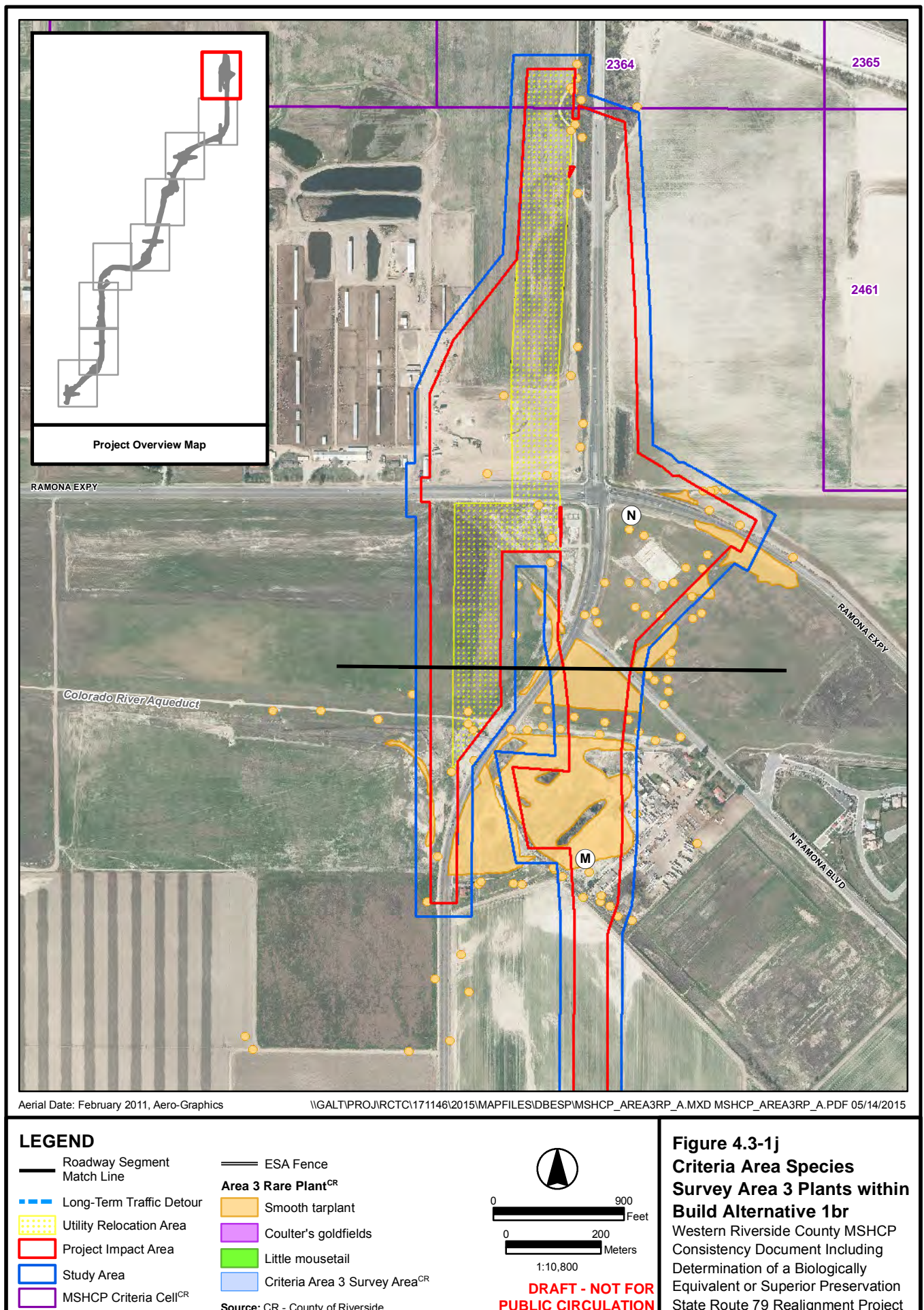
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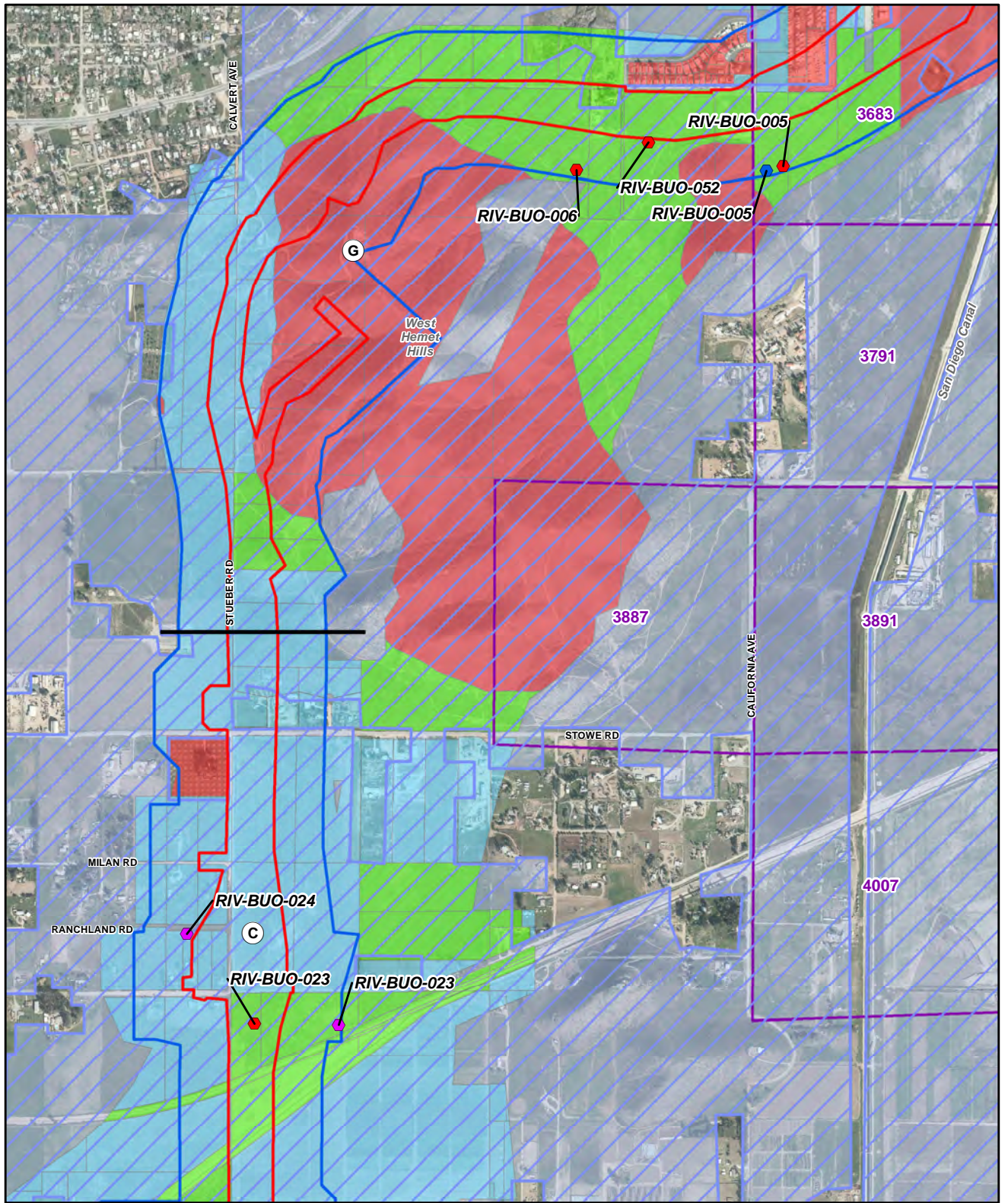
— Roadway Segment Match Line	— ESA Fence
--- Long-Term Traffic Detour	Area 3 Rare Plant^{CR}
Utility Relocation Area	Smooth tarplant
Project Impact Area	Coulter's goldfields
Study Area	Little mouse-tail
MSHCP Criteria Cell ^{CR}	Criteria Area 3 Survey Area ^{CR}
Source: CR - County of Riverside	



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Figure 4.3-1i
Criteria Area Species
Survey Area 3 Plants within
Build Alternative 1br
 Western Riverside County MSHCP
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 Determination of a Biologically
 Equivalent or Superior Preservation
 State Route 79 Realignment Project





Aerial Date: February 2011, Aero-Graphics

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LEGEND

- Roadway Segment Match Line
- Project Impact Area
- Study Area
- Burrowing Owl Habitat Suitability**
 - Excellent
 - Suitable
 - Excluded

Breeding Status 2005

- Burrow and Paired Owls
- Burrow, Paired Owls, and Young

Breeding Status 2006

- Burrow, Paired Owls, and Young
- MSHCP Burrowing Owl Survey^{CR}
- MSHCP Criteria Cell^{CR}

Source: CR - County of Riverside

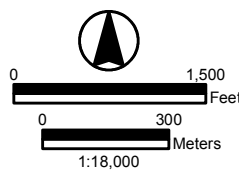
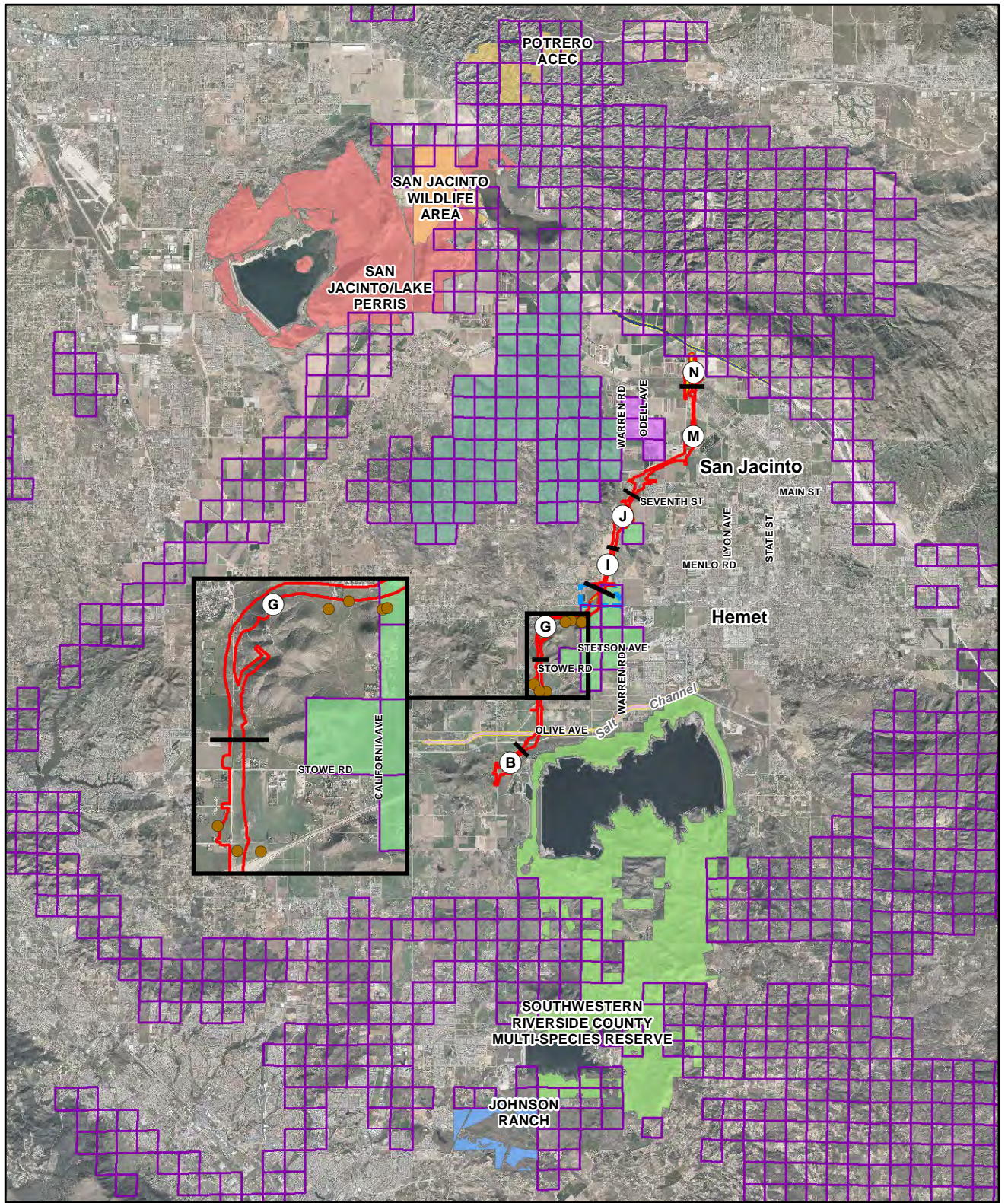


Figure 4.3-2

Burrowing Owls within Build Alternative 1br

Western Riverside County MSHCP Consistency Document Including Determination of a Biologically Equivalent or Superior Preservation State Route 79 Realignment Project

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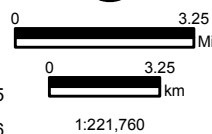
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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- MSHCP Criteria Cell^{CR}

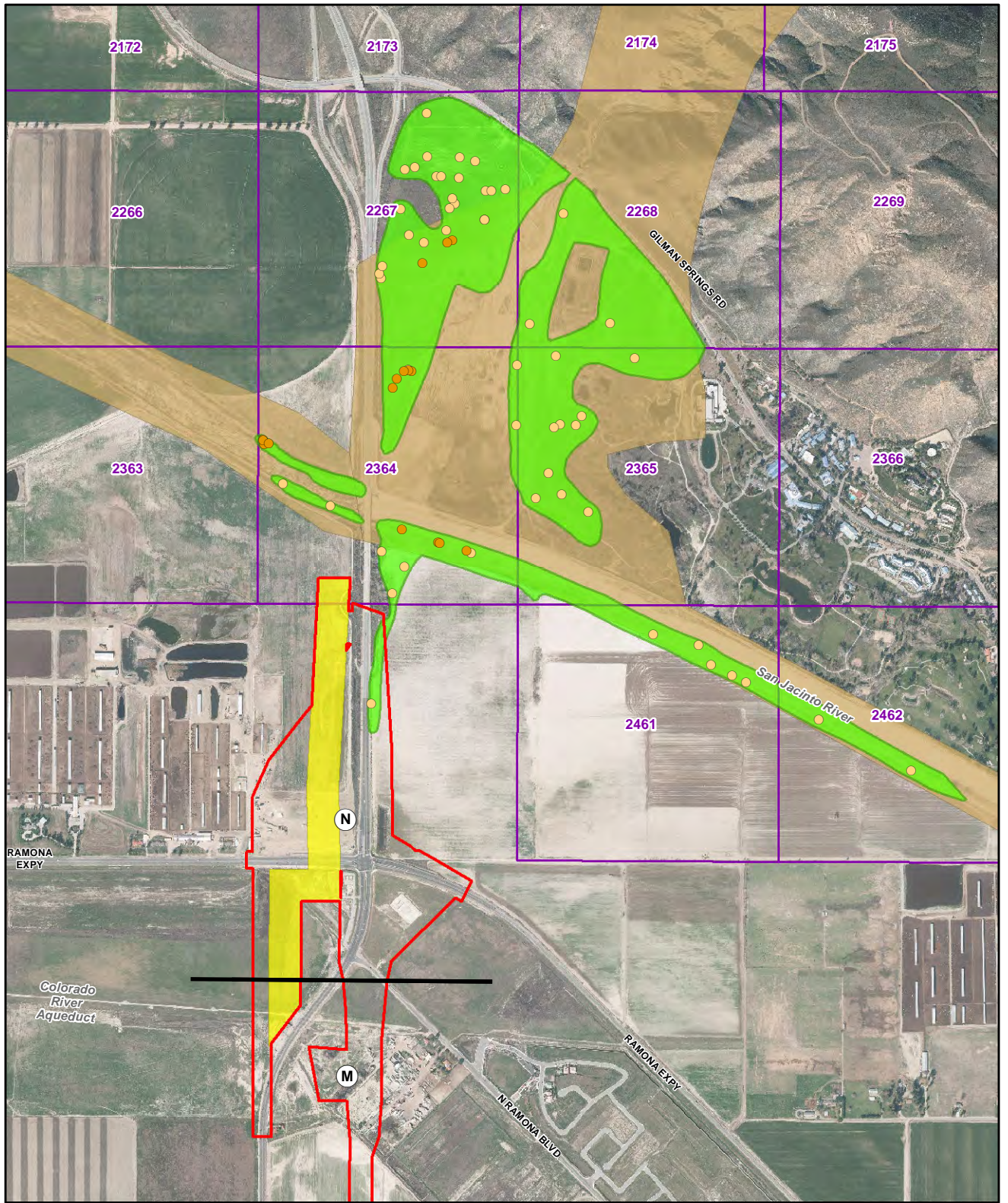
- Burrowing Owl Location
- MSHCP Linkage^{CR}**
 - Proposed Noncontiguous Habitat Block 7
 - Existing Constrained Linkage B
 - Existing Constrained Linkage C
 - Proposed Noncontiguous Habitat Block 5
 - Proposed Noncontiguous Habitat Block 6



Source: CR - County of Riverside

Figure 4.3-3 Potential Burrowing Owl Relocation Sites

Western Riverside County MSHCP
Consistency Document Including
Determination of a Biologically
Equivalent or Superior Preservation
State Route 79 Realignment Project
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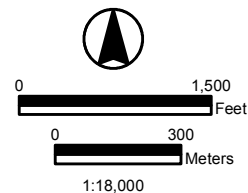


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LEGEND

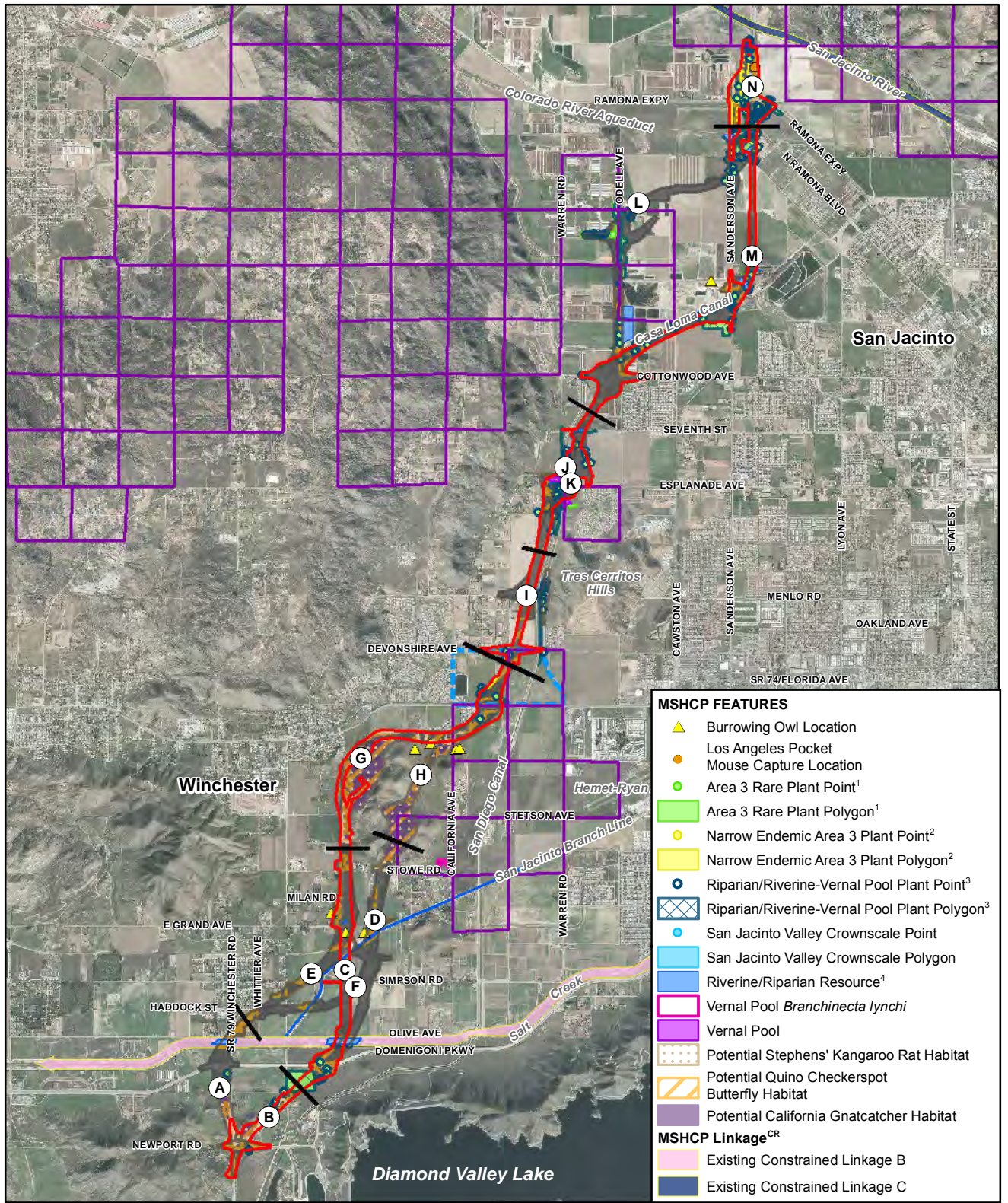
- Roadway Segment
- Match Line
- Project Impact Area
- Utility Relocation Area
- MSHCP Criteria Cell^{CR}
- 2005 Los Angeles Pocket Mouse Capture Location
- 2006 Los Angeles Pocket Mouse Capture Location
- Los Angeles Pocket Mouse Habitat
- MSHCP Mammal Survey Area^{CR}



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Figure 4.3-4 MSHCP Mammal Survey Area within Build Alternative 1br

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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area for Alternative 1b
- Project Impact Area for DEIS Alternatives
- Utility Relocation Area

MSHCP Criteria Cell

Notes: 1 - Area 3 Rare Plants within the project area include Davidson's saltscale, San Jacinto Valley Crownscale, Parish's brittlescale, smooth tarplant, Coulter's goldfields, and little mousetail. 2 - Narrow Endemic Area 3 plant within the project area includes spreading navaretia and California orcutt grass. 3 - Riparian/Riverine-Vernal Pool Plant within the project area include smooth tarplant and vernal barley. 4 - Riverine/Riparian resources include constructed ponds, riparian, seasonal wetlands, Hemet Channel, and Salt Creek Channel.

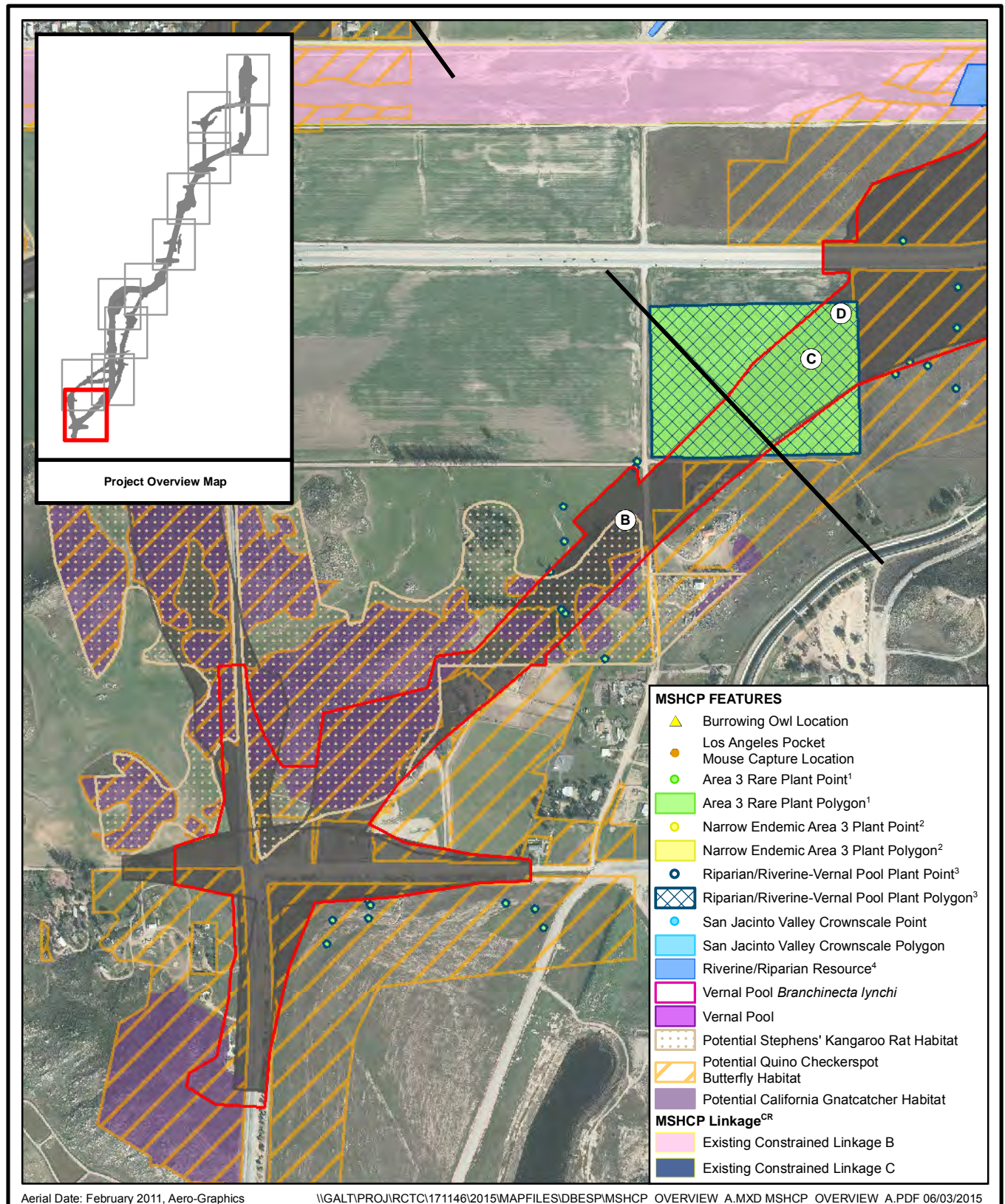


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Figure 4.5-1a Build Alternatives in Relation to MSHCP Resources Overview

Western Riverside County MSHCP
Consistency Document Including
Determination of a Biologically
Equivalent or Superior Preservation
State Route 79 Realignment Project

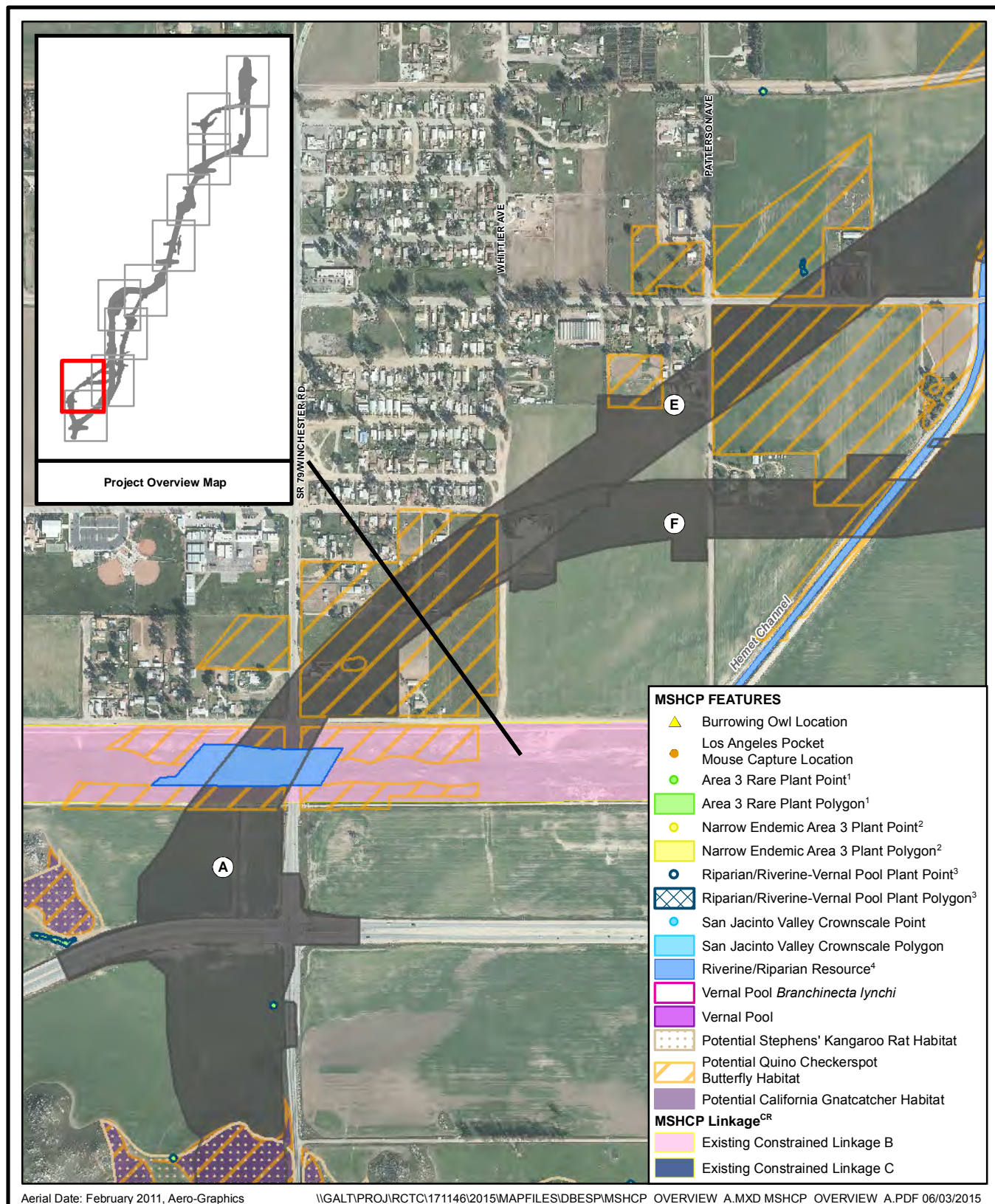


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Figure 4.5-1b Build Alternatives in Relation to MSHCP Resources

Western Riverside County MSHCP
Consistency Document Including
Determination of a Biologically
Equivalent or Superior Preservation
State Route 79 Realignment Project

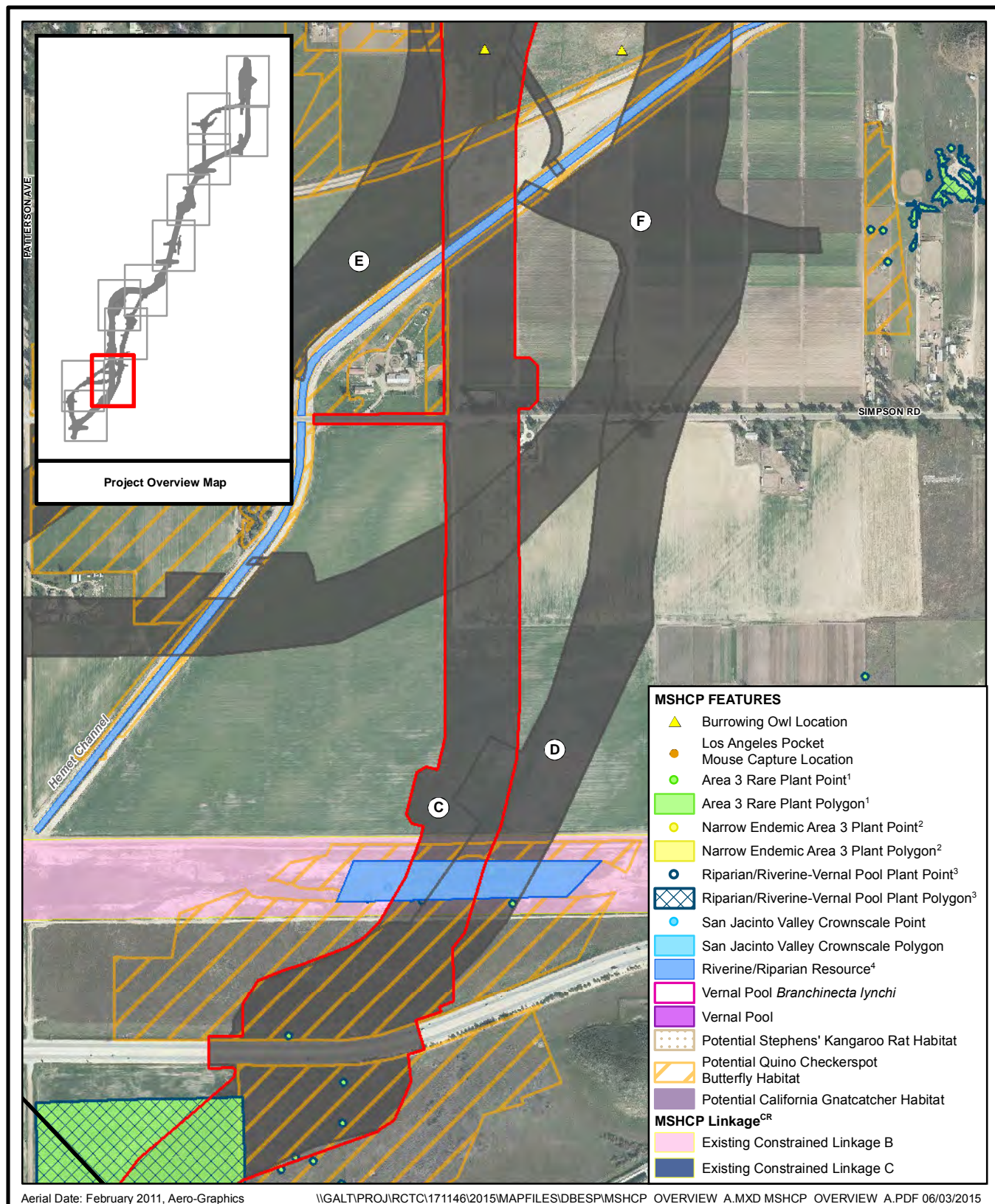


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Figure 4.5-1c Build Alternatives in Relation to MSHCP Resources

Western Riverside County MSHCP
Consistency Document Including
Determination of a Biologically
Equivalent or Superior Preservation
State Route 79 Realignment Project



Aerial Date: February 2011, Aero-Graphics

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LEGEND

- Roadway Segment Match Line
- - - Long-Term Traffic Detour
- Project Impact Area for Alternative 1b
- Project Impact Area for DEIS Alternatives
- Utility Relocation Area

■ MSHCP Criteria Cell

Notes: 1 - Area 3 rare plants within the project area include Davidson's saltscale, San Jacinto Valley Crownscale, Parish's brittlescale, smooth tarplant, Coulter's goldfields, and little mouselail. 2 - Narrow Endemic Area 3 plant within the project area includes spreading navaretia and California orcutt grass. 3 - Riparian/Riverine-Vernal Pool Plant within the project area include smooth tarplant and vernal barley. 4 - Riverine/Riparian resources include constructed ponds, riparian, seasonal wetlands, Hemet Channel, and Salt Creek Channel.

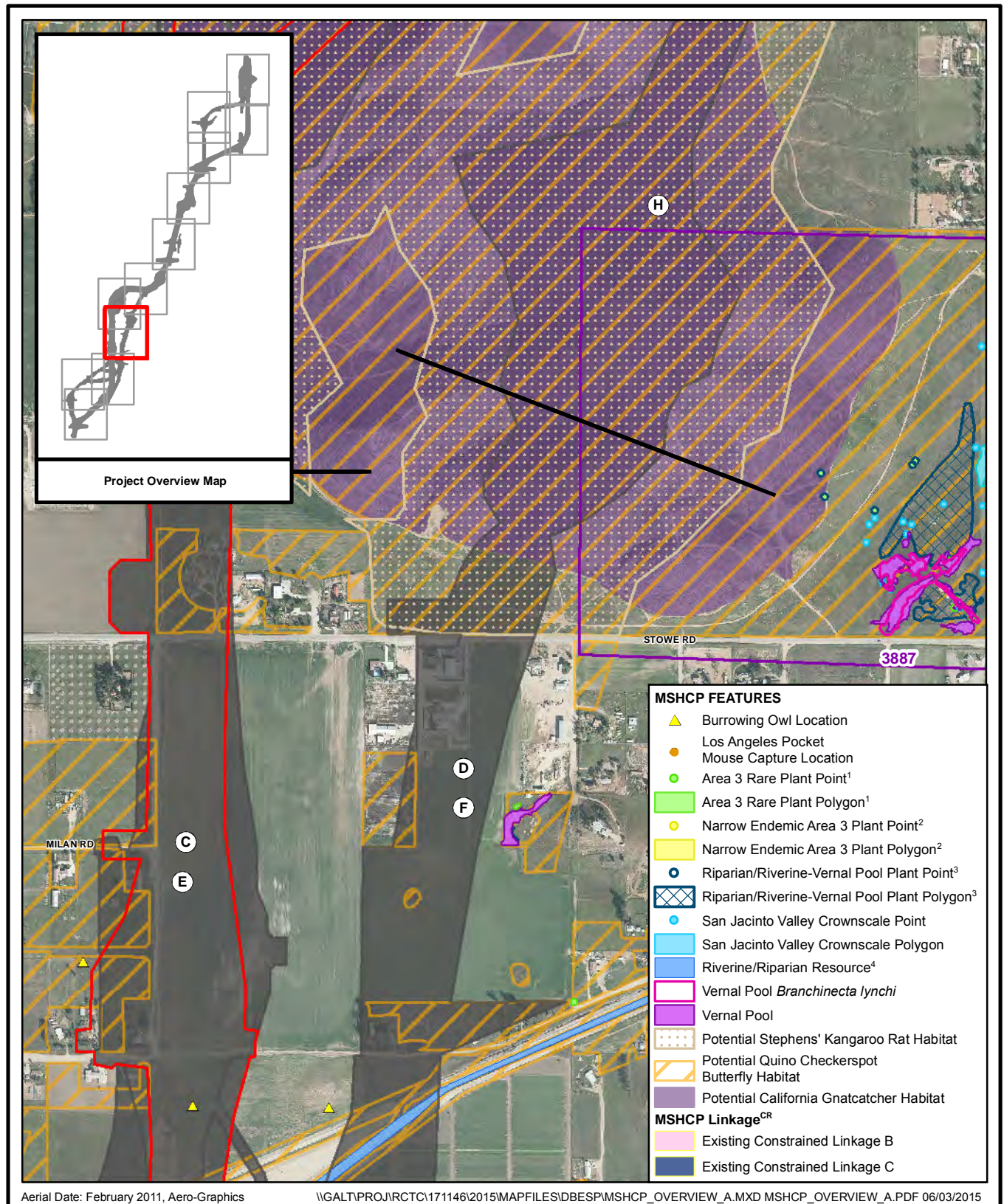


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Figure 4.5-1d Build Alternatives in Relation to MSHCP Resources

Western Riverside County MSHCP Consistency Document Including Determination of a Biologically Equivalent or Superior Preservation State Route 79 Realignment Project



LEGEND

- Roadway Segment Match Line
- - - Long-Term Traffic Detour
- Project Impact Area for Alternative 1br
- Project Impact Area for DEIS Alternatives
- Utility Relocation Area

MSHCP Criteria Cell

Notes: 1 - Area 3 rare plants within the project area include Davidson's saltscall, San Jacinto Valley Crownscale, Parish's brittlescale, smooth tarplant, Coulter's goldfields, and little mousetail. 2 - Narrow Endemic Area 3 plant within the project area includes spreading navaretia and California orcutt grass. 3 - Riparian/Riverine-Vernal Pool Plant within the project area include smooth tarplant and vernal barley. 4 - Riverine/Riparian resources include constructed ponds, riparian, seasonal wetlands, Hemet Channel, and Salt Creek Channel.

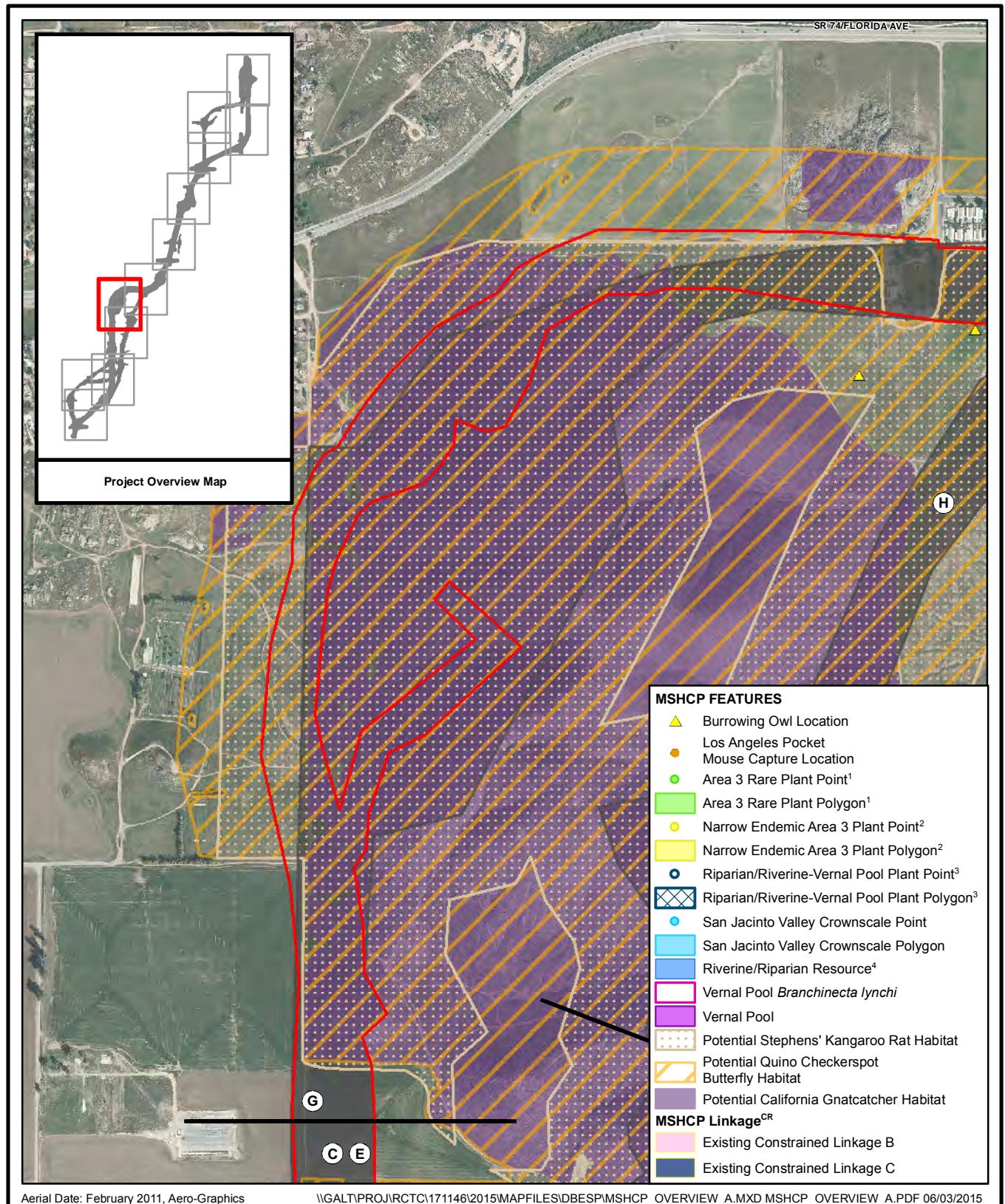


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Figure 4.5-1e Build Alternatives in Relation to MSHCP Resources

Western Riverside County MSHCP
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Determination of a Biologically
Equivalent or Superior Preservation
State Route 79 Realignment Project



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LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area for Alternative 1b
- Project Impact Area for DEIS Alternatives
- Utility Relocation Area

MSHCP Criteria Cell

Notes: 1 - Area 3 rare plants within the project area include Davidson's saltscale, San Jacinto Valley Crownscale, Parish's brittlescale, smooth tarplant, Coulter's goldfields, and little mousetail. 2 - Narrow Endemic Area 3 plant within the project area includes spreading navaretia and California orcutt grass. 3 - Riparian/Riverine-Vernal Pool Plant within the project area include smooth tarplant and vernal barley. 4 - Riverine/Riparian resources include constructed ponds, riparian, seasonal wetlands, Hemet Channel, and Salt Creek Channel.

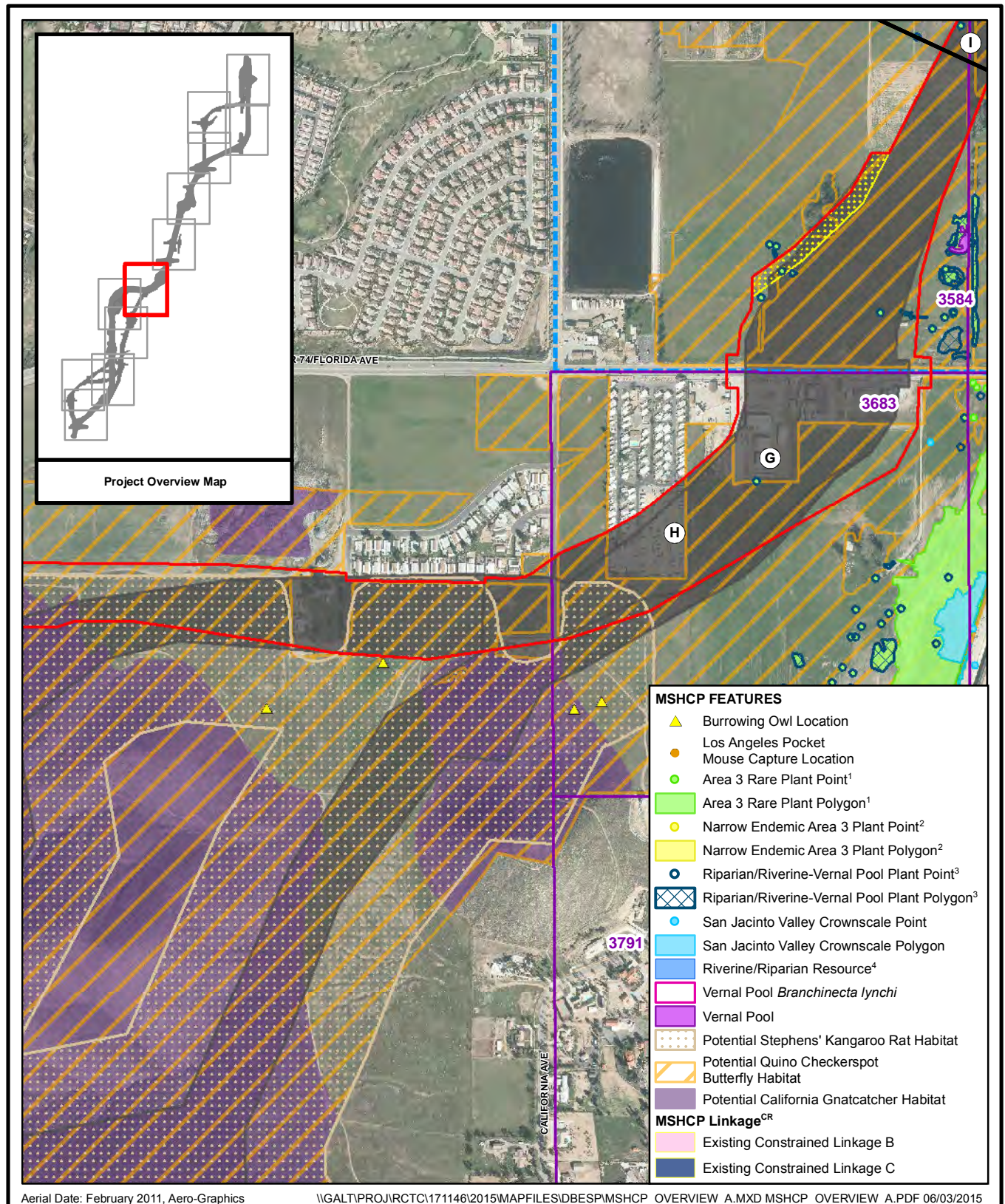


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Figure 4.5-1f Build Alternatives in Relation to MSHCP Resources

Western Riverside County MSHCP Consistency Document Including Determination of a Biologically Equivalent or Superior Preservation State Route 79 Realignment Project



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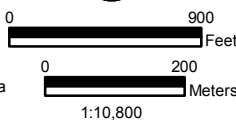
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LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area for Alternative 1br
- Project Impact Area for DEIS Alternatives
- Utility Relocation Area

■ MSHCP Criteria Cell

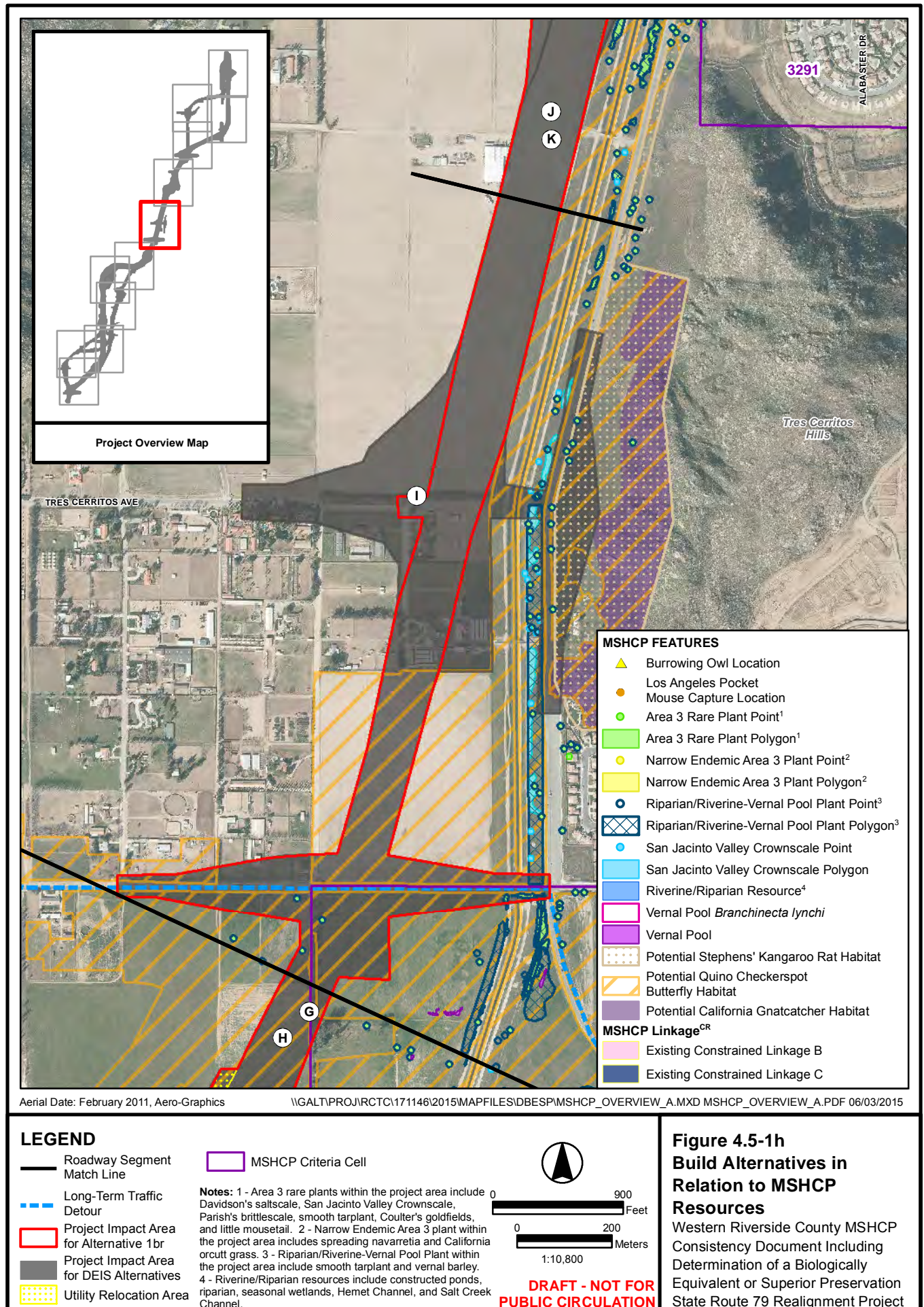
Notes: 1 - Area 3 rare plants within the project area include Davidson's saltscare, San Jacinto Valley Crownscale, Parish's brittlescale, smooth tarplant, Coulter's goldfields, and little mousetail. 2 - Narrow Endemic Area 3 plant within the project area includes spreading navaretia and California orcutt grass. 3 - Riparian/Riverine-Vernal Pool Plant within the project area include smooth tarplant and vernal barley. 4 - Riverine/Riparian resources include constructed ponds, riparian, seasonal wetlands, Hemet Channel, and Salt Creek Channel.



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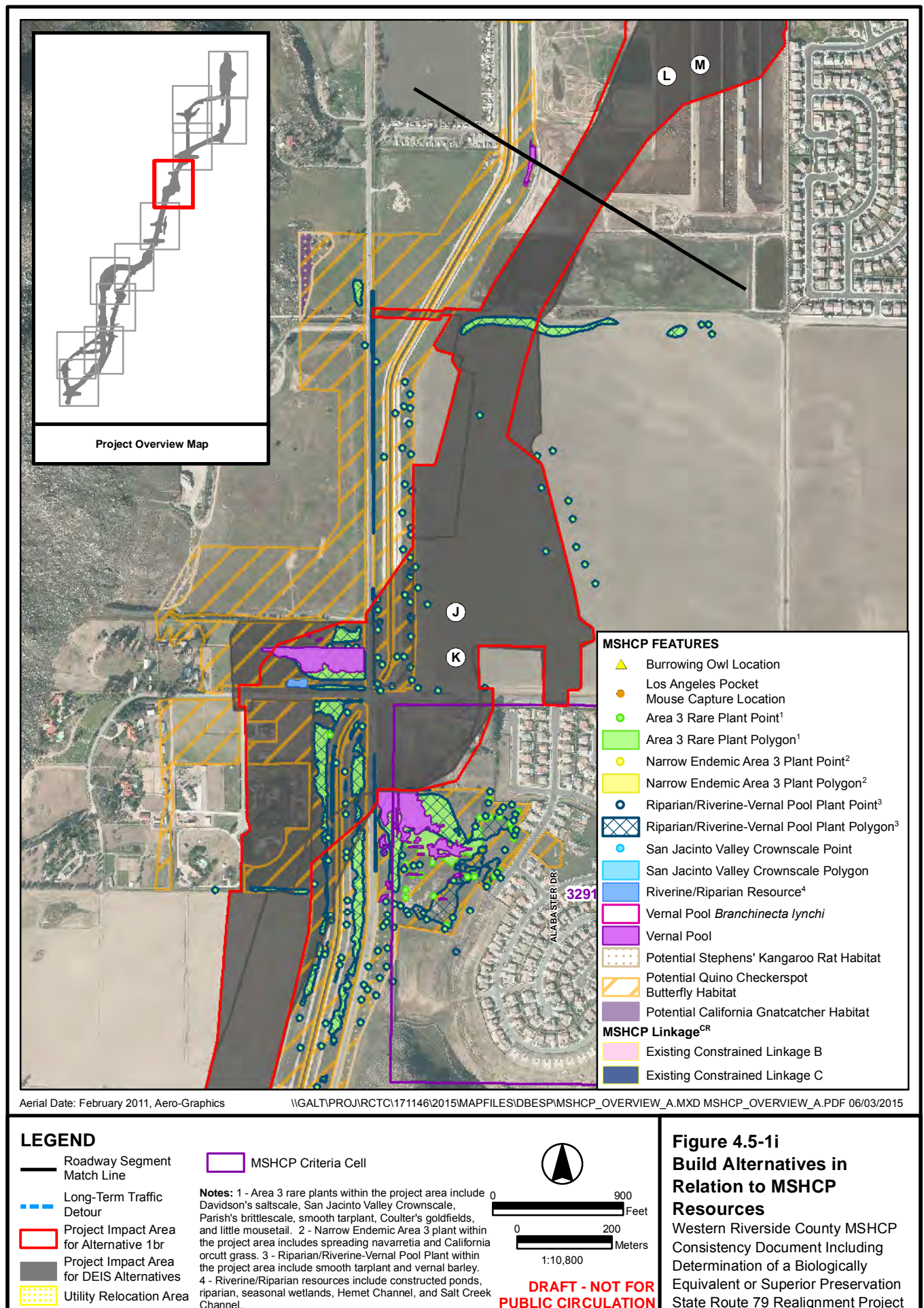
Figure 4.5-1g Build Alternatives in Relation to MSHCP Resources

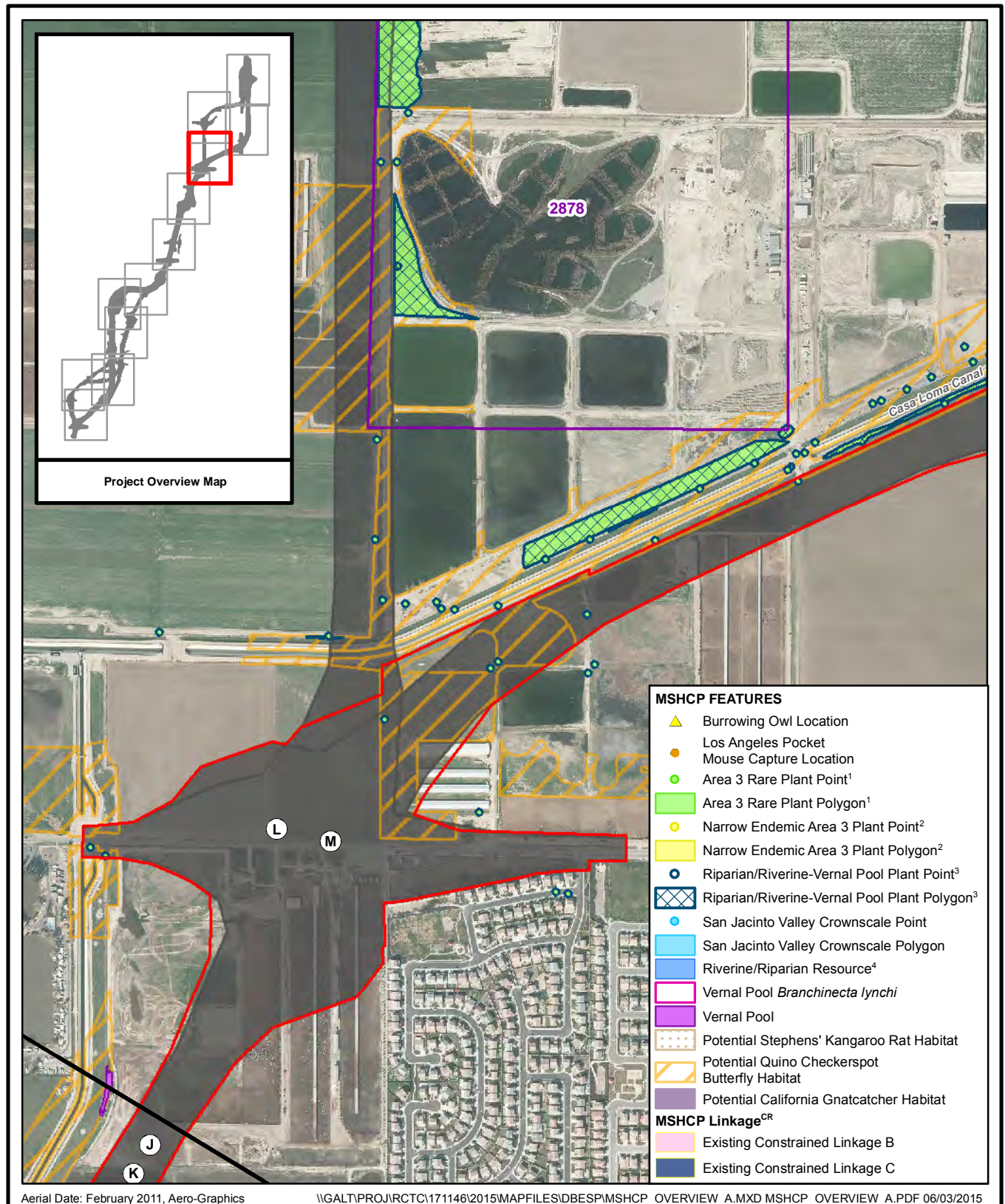
Western Riverside County MSHCP Consistency Document Including Determination of a Biologically Equivalent or Superior Preservation State Route 79 Realignment Project



Aerial Date: February 2011, Aero-Graphics

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LEGEND

- Roadway Segment Match Line
- - - Long-Term Traffic Detour
- Project Impact Area for Alternative 1br
- Project Impact Area for DEIS Alternatives
- Utility Relocation Area

MSHCP Criteria Cell

Notes: 1 - Area 3 rare plants within the project area include Davidson's saltscale, San Jacinto Valley Crownscale, Parish's brittlescale, smooth tarplant, Coulter's goldfields, and little mousetail. 2 - Narrow Endemic Area 3 plant within the project area includes spreading navaretia and California orcutt grass. 3 - Riparian/Riverine-Vernal Pool Plant within the project area include smooth tarplant and vernal barley. 4 - Riverine/Riparian resources include constructed ponds, riparian, seasonal wetlands, Hemet Channel, and Salt Creek Channel.

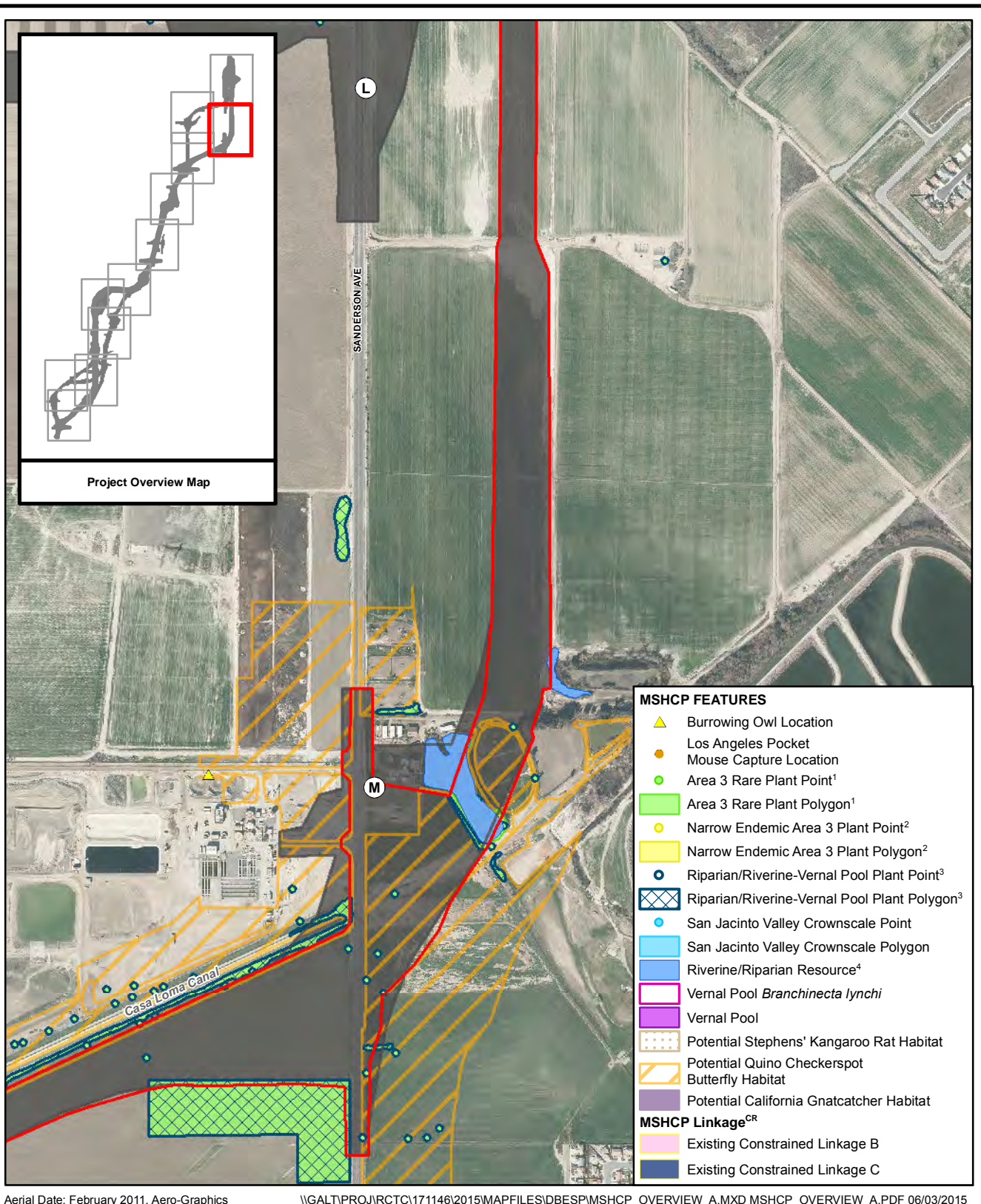


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Figure 4.5-1j Build Alternatives in Relation to MSHCP Resources

Western Riverside County MSHCP Consistency Document Including Determination of a Biologically Equivalent or Superior Preservation State Route 79 Realignment Project



LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area for Alternative 1br
- Project Impact Area for DEIS Alternatives
- Utility Relocation Area

MSHCP Criteria Cell

Notes: 1 - Area 3 rare plants within the project area include Davidson's saltscall, San Jacinto Valley Crownscale, Parish's brittlescale, smooth tarplant, Coulter's goldfields, and little mousetail. 2 - Narrow Endemic Area 3 plant within the project area includes spreading navaretia and California orcutt grass. 3 - Riparian/Riverine-Vernal Pool Plant within the project area include smooth tarplant and vernal barley. 4 - Riverine/Riparian resources include constructed ponds, riparian, seasonal wetlands, Hemet Channel, and Salt Creek Channel.

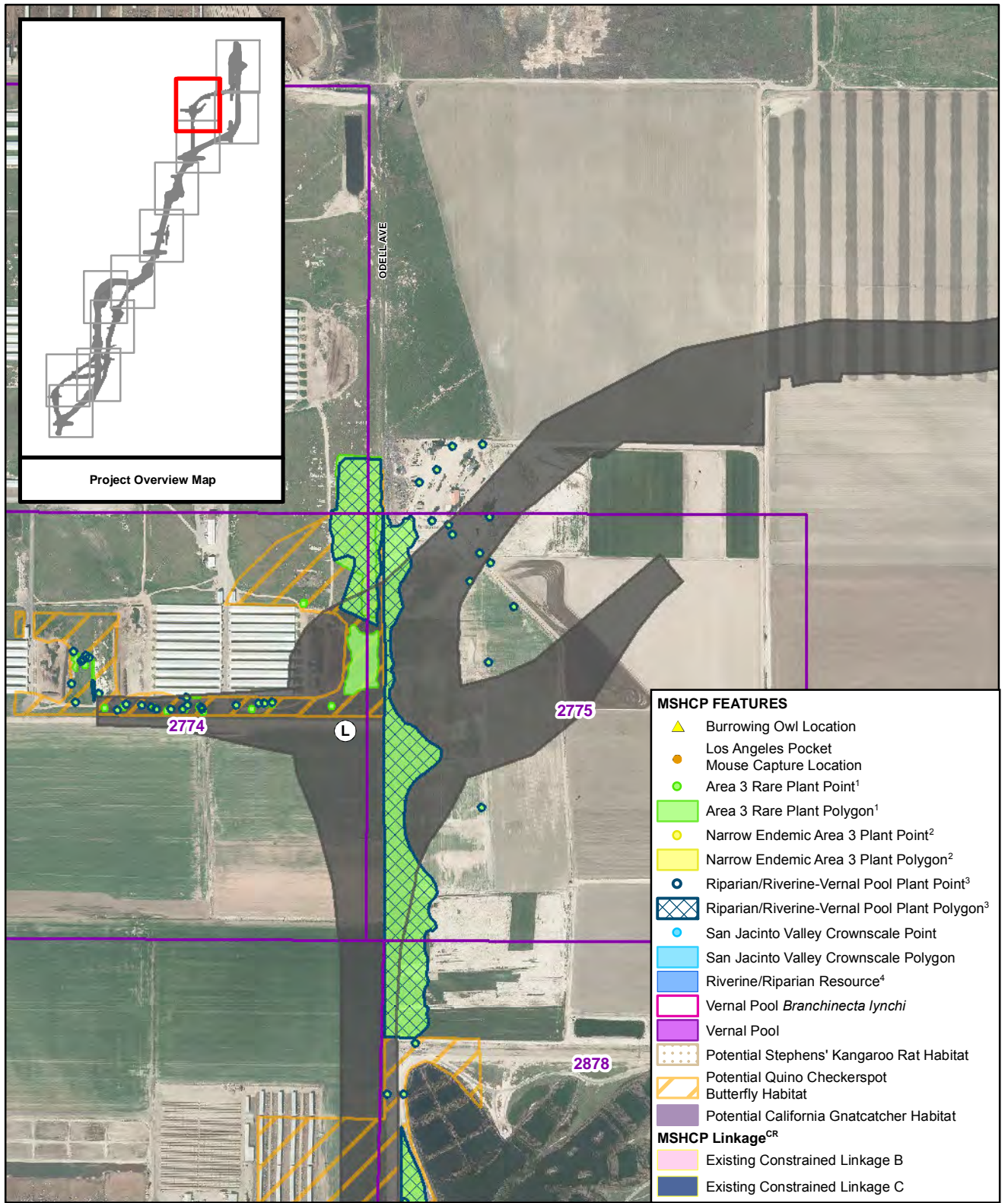


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Figure 4.5-1k Build Alternatives in Relation to MSHCP Resources

Western Riverside County MSHCP Consistency Document Including Determination of a Biologically Equivalent or Superior Preservation State Route 79 Realignment Project



Aerial Date: February 2011, Aero-Graphics

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LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area for Alternative 1br
- Project Impact Area for DEIS Alternatives
- Utility Relocation Area

■ MSHCP Criteria Cell

Notes: 1 - Area 3 rare plants within the project area include Davidson's saltscale, San Jacinto Valley Crownscale, Parish's brittlescale, smooth tarplant, Coulter's goldfields, and little mousetail. 2 - Narrow Endemic Area 3 plant within the project area includes spreading navarretia and California orcutt grass. 3 - Riparian/Riverine-Vernal Pool Plant within the project area include smooth tarplant and vernal barley. 4 - Riverine/Riparian resources include constructed ponds, riparian, seasonal wetlands, Hemet Channel, and Salt Creek Channel.

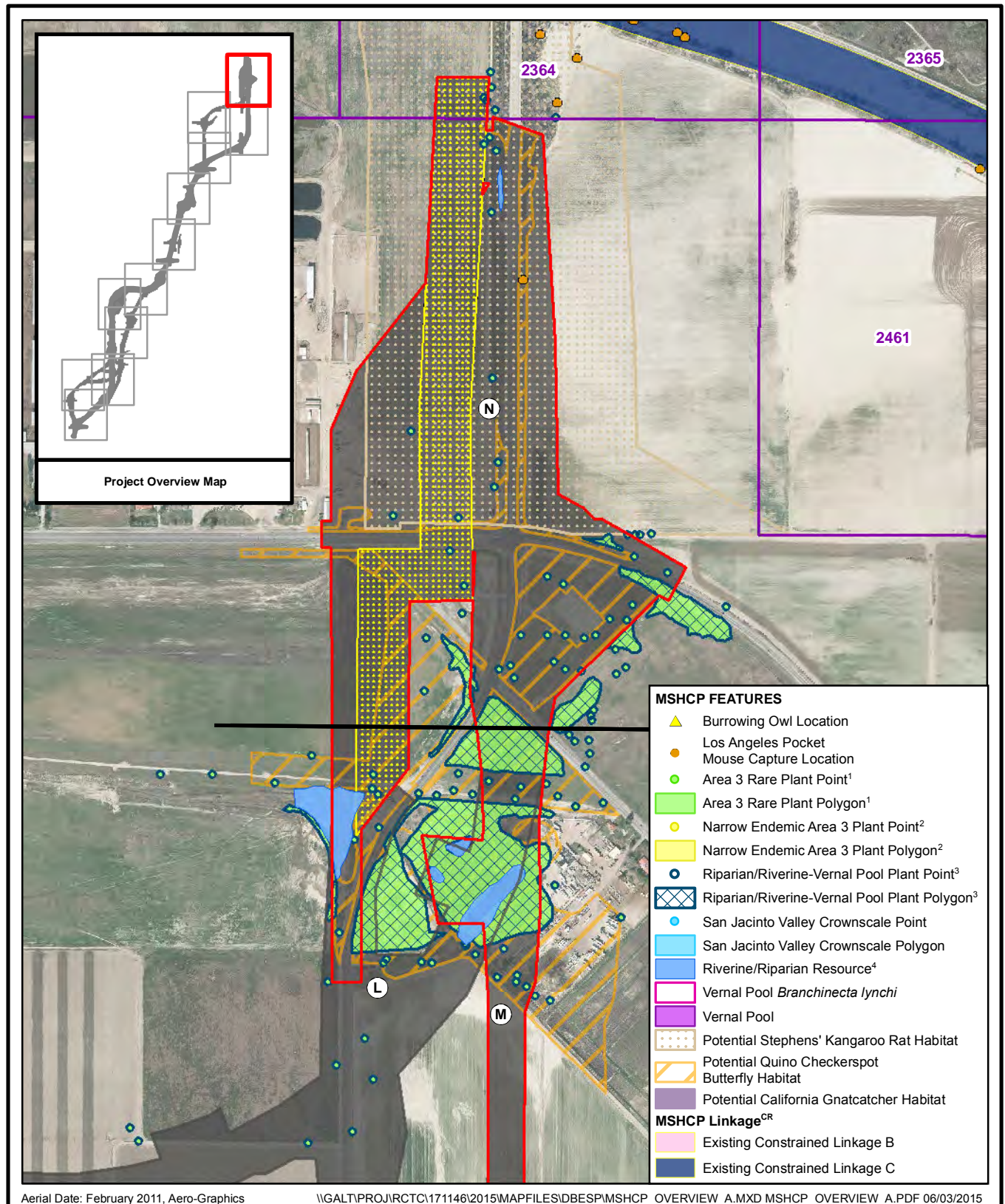


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Figure 4.5-11 Build Alternatives in Relation to MSHCP Resources

Western Riverside County MSHCP Consistency Document Including Determination of a Biologically Equivalent or Superior Preservation State Route 79 Realignment Project

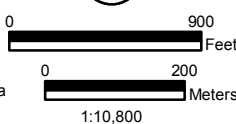


LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area for Alternative 1br
- Project Impact Area for DEIS Alternatives
- Utility Relocation Area

MSHCP Criteria Cell

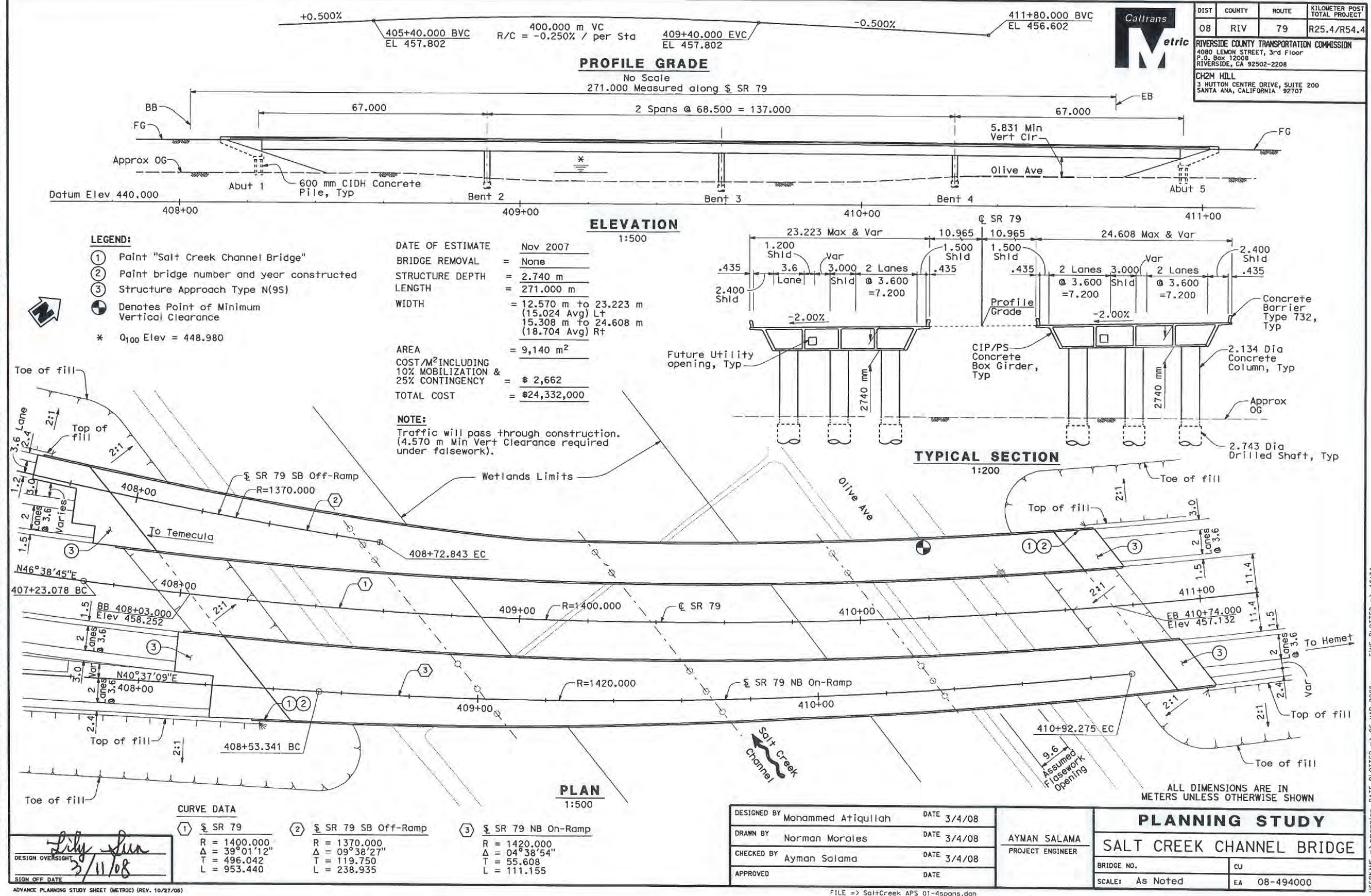
Notes: 1 - Area 3 rare plants within the project area include Davidson's saltscare, San Jacinto Valley Crownscale, Parish's brittlescale, smooth tarplant, Coulter's goldfields, and little mousetail. 2 - Narrow Endemic Area 3 plant within the project area includes spreading navarretia and California orcutt grass. 3 - Riparian/Riverine-Vernal Pool Plant within the project area include smooth tarplant and vernal barley. 4 - Riverine/Riparian resources include constructed ponds, riparian, seasonal wetlands, Hemet Channel, and Salt Creek Channel.



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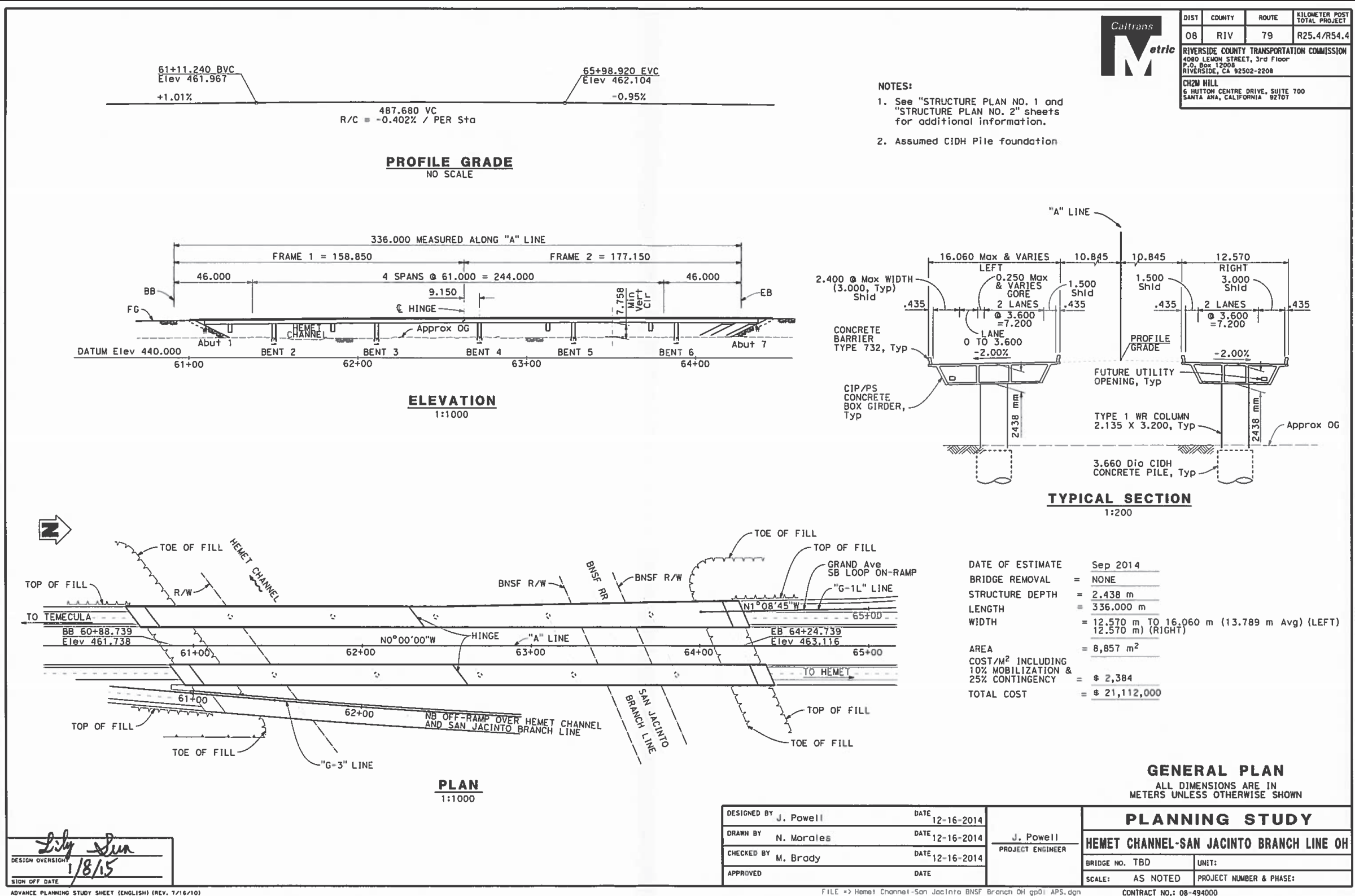
Figure 4.5-1m Build Alternatives in Relation to MSHCP Resources

Western Riverside County MSHCP Consistency Document Including Determination of a Biologically Equivalent or Superior Preservation State Route 79 Realignment Project



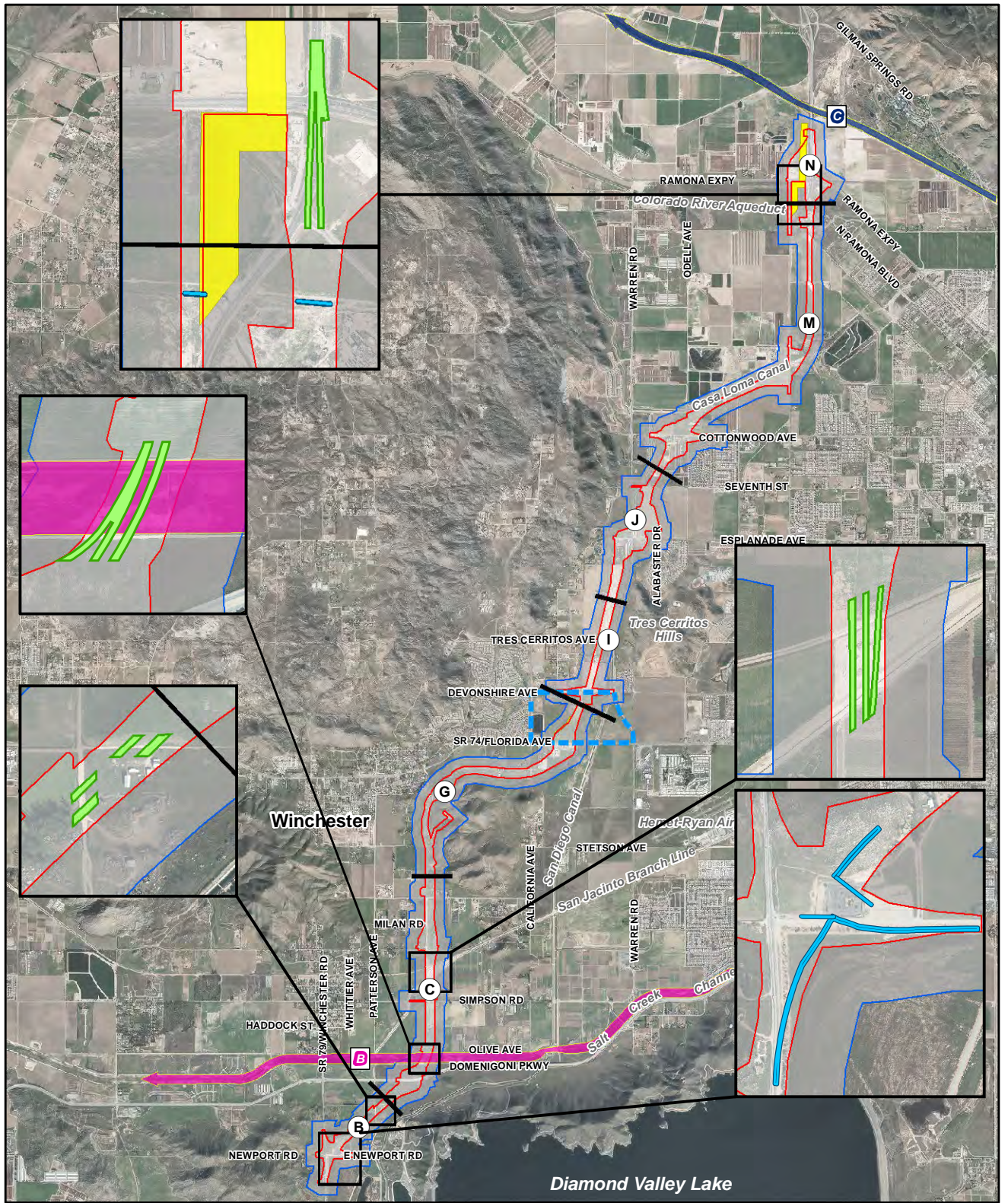
Sources: Supplemental Draft Project Report, 2015

Figure 4.5-2
Advanced Planning Study
for Salt Creek Channel Bridge
Western Riverside County MSHCP
Consistency Document Including
Determination of a Biologically
Equivalent or Superior Preservation
State Route 79 Realignment Project
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Sources: Supplemental Draft Project Report, 2015

Figure 4.5-3
Advanced Planning Study
for Hemet Channel Bridge
Western Riverside County MSHCP
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Equivalent or Superior Preservation
State Route 79 Realignment Project
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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Study Area
- Utility Relocation Area

- Bridge
- Proposed Culvert
- MSHCP Linkage^{CR}
- Existing Constrained Linkage B
- Existing Constrained Linkage C

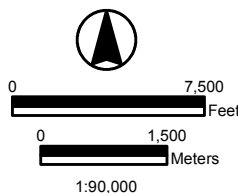


Figure 4.5-4 Culverts and Bridges within Build Alternative 1br

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Determination of a Biologically
Equivalent or Superior Preservation
State Route 79 Realignment Project
**DRAFT - NOT FOR
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Source: CR - County of Riverside

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A-2 Final Vernal Pool Branchiopod Survey Report

A-3 Final Rare Plant Survey Report

A-4 Final Sensitive Wildlife Survey Report

A-5 Final Burrowing Owl Survey Report

A-6 Final Sensitive Small Mammal Focused Survey Report

Full Appendix is available on the CD provided

Least Environmentally Damaging Practicable Alternative
May 2015

State Route 79 Realignment Project: Domenigoni Parkway to Gilman Springs Road



Preferred Alternative/Preliminary Identification of LEDPA (NEPA 404/Checkpoint C)

Riverside County, California

District 8-RIV-79-KP R25.4/R54.4 (PM R15.78/R33.80)

08-494000

PN 0800000784

Permit Application Number:

SPL-2004-00289-SJH

May 2015

Prepared by the State of California Department of Transportation

The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried-out by Caltrans under its assumption of responsibility pursuant to 23 USC 327.



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Appendices

Appendix A NEPA/Clean Water Act Memorandum of Understanding
Appendix B Project Alternative Studies
Appendix C Alternative 1br Project Design Refinements
Appendix D Caltrans Title IV Policy Statement

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List of Abbreviated Terms

µg/m ³	micrograms per cubic meter
µg/L	micrograms per liter
APE	Area of Potential Effect
ARB	Air Resources Board
BHMP	Baseline Hydrology Monitoring Plan
BMP	best management practice
Caltrans	California Department of Transportation
CETAP	Community and Environmental Transportation Acceptability Process
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNPS	California Native Plant Society
CRA	Colorado River Aqueduct
CRAM	California Rapid Assessment Method
CWA	Clean Water Act
EIR/EIS	Environmental Impact Report/Environmental Impact Statement
EMWD	Eastern Municipal Water District
FCAA	Federal Clean Air Act
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
ft	foot/feet
FTA	Federal Transit Administration
HDM	Highway Design Manual
HPSR	Historic Property Survey Report
km	kilometer(s)
KP	kilometer post
lb(s)	pound(s)
LDEPA	Least Environmentally Damaging Practicable Alternative
LOS	level of service
LPA	Locally Preferred Alternative
m	meter(s)

mg/L	milligrams per liter
mi	mile(s)
MOU	Memorandum of Understanding
MSAT	mobile-source air toxic
MSHCP	Multiple Species Habitat Conservation Plan
MWD	Metropolitan Water District of Southern California
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
PCMP	Post-Construction Monitoring Plan
PM	post mile
POAQC	Projects of Air Quality Concern
PPDG	Project Planning and Design Guide
PS&E	Plans, Specifications, and Estimates
PSR/PDS	Project Study Report/Project Development Support
RCA	Riverside County Association
RCIP	Riverside County Integrated Project
RCTC	Riverside County Transportation Commission
ROW	right-of-way
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SCAG	Southern California Association of Governments
SIP	State Implementation Plan
SR	State Route
SWMP	Storm Water Management Plan
TCP	Traditional Cultural Property
TIP	Transportation Improvement Program
U.S.C.	United States Code
USACE	United States Army Corps of Engineers
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service

Chapter 1 Introduction

1.1 Proposed Action

The Riverside County Transportation Commission (RCTC), in cooperation with the California Department of Transportation (Caltrans), the County of Riverside, the City of Hemet, and the City of San Jacinto, has proposed a project for the realignment of State Route 79 (SR 79) from Domenigoni Parkway to Gilman Springs Road—a distance of approximately 18 miles—in the cities of Hemet and San Jacinto and in unincorporated Riverside County. Caltrans is the lead agency under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA).

The United States Army Corps of Engineers (USACE) is a Cooperating Agency under NEPA. The realigned highway would be a limited-access, four-lane expressway with two travel lanes in each direction separated by a median. The Project will consist of new construction in areas where no such highway exists. There are a total of seven build alternatives, including two design options, and the No Build Alternative for the proposed Project. These are Build Alternatives 1a, 1b, Design Options 1b1, 2a, 2b, Design Option 2b1, and 1b with Refinements. These are described in further detail in Chapter 6 of this report.

Due to the complexity and cost of the Project, construction could be phased over time. Additional construction would be required to incorporate access modifications for the ultimate roadway design, which is a four-lane freeway (all remaining intersections would be converted to grade-separated interchanges). Timing would depend on funding, roadway capacity, operation, or safety needs, but the additional construction would be completed after Opening Year (2020) and prior to the 20-Year Design Horizon of the Project (2040). Although the Project would be phased, potential environmental impacts have been analyzed for the 20-Year Design Horizon because this condition represents the full Project impact.

Right-of-way (ROW) would include permanent acquisition, temporary easements, and permanent easements to accommodate construction, operation, and maintenance activities associated with a new transportation facility. Together, these are called the Project ROW.

1.2 Project Purpose

The Project purpose and need was developed in accordance with the NEPA/404 Integration Process in a joint effort among Caltrans, the Federal Highway Association (FHWA), USACE, United States Environmental Protection Agency (USEPA), and United States Fish and Wildlife Service (USFWS) to integrate the NEPA and federal Clean Water Act (CWA) Section 404(b)(1) alternatives analysis process. Local (City of Hemet, City of San Jacinto, County of Riverside) and state agencies (California Department of Fish and Wildlife [CDFW] and Santa Ana Regional Water Quality Control Board [RWQCB]) also participated in this process. Although the Project would be in the jurisdictions of the Santa Ana RWQCB and the San Diego RWQCB, such a small portion of it would be in San Diego RWQCB jurisdiction that the San Diego RWQCB deferred its participation to the Santa Ana RWQCB. This effort was undertaken and substantively concluded prior to Caltrans assuming the United States Department of Transportation (USDOT) Secretary's responsibilities under NEPA pursuant to Section 6005 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, codified at 23 United States Code (U.S.C.) 327(a)(2)(A), which became effective July 1, 2007.

The purpose of the proposed transportation action is to:

- Improve traffic flow for local and regional north-south traffic in the San Jacinto Valley.
- Improve operational efficiency and enhance safety conditions by maintaining route continuity and upgrading the facility.
- Allow regional traffic, including truck traffic, to adequately bypass local roads.
- Reduce the diversion of traffic from state routes onto local roads.

1.3 Project Location

The Project would be located on SR 79 in the western portion of the San Jacinto Valley in Riverside County. The Project would begin at kilometer post (KP) R25.4 (post mile [PM] R15.78), which is 2.035 kilometers (km) (1.26 miles [mi]) south of Domenigoni Parkway, and end approximately 29 km (18 mi) north at the intersection of SR 79 and Gilman Springs Road (KP R54.4 [PM R33.80]). A regional Project location map is shown on Figure 1.3-1, Regional Location Map.

1.4 Project History

The intent to realign SR 79 was first identified in the Route Concept Report in 1992 (Caltrans 1992). The Route Concept Report determined that the existing route required realignment and defined the ultimate facility type as a six-lane expressway that would maintain a level of service (LOS) D.

Subsequently, a Route Concept Fact Sheet was prepared (Caltrans 1999). The fact sheet noted that—due to the collocation of SR 79 with State Route 74 (SR 74) on Florida Avenue, the more than 90 driveways directly accessing SR 79, and other ROW issues—most of the existing alignment could not be reasonably upgraded to an expressway, and any lesser improvements would not adequately accommodate future traffic (Caltrans 1999). The fact sheet was also supported by the technical information included in the SR 79 Realignment Study Report (1998).

Following these activities, the Project Study Report/Project Development Support (PSR/PDS) (2002) evaluated conceptual alternatives for the Project. During this same period, the Riverside County Integrated Project (RCIP) planning process and the cities' General Plan update processes were being developed.

The elements of the RCIP include the Riverside County General Plan (led by the County of Riverside), the Community and Environmental Transportation Acceptability Process (CETAP) (led by RCTC), and the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) (led by the County of Riverside). These elements guided the choices and decisions made about how to address the changes necessary to accommodate and support predicted growth in the county.

The Project alternatives identified in the PSR/PDS were also vetted through the NEPA/CWA Section 404 Integration Process and were closely coordinated with the local community. This process began with the development of the Project Purpose and Need (2003) and continued with the determination of environmental screening criteria (including field surveys) and the screening of preliminary alternatives (2004 and 2005), formal scoping (2005), and the selection of the build alternatives to be included in technical studies and the environmental impact report/environmental impact statement (EIR/EIS) (2005). This effort was undertaken because of the potential for substantial impacts to waters of the United States, primarily to wetlands (vernal pools) and the species they support, including listed and endemic species. Each of the approving or commenting federal and state agencies associated with these

resources participated in this process to ensure that impacts to resources of concern would be avoided or minimized.

This coordination effort has resulted in the development of a reasonable range of build alternatives for the Project, which are also included in the RCIP and City planning documents. The General Plans for the County of Riverside (County 2003), the City of Hemet (Hemet 2011), and the City of San Jacinto (San Jacinto 2006) include goals and policies for improved circulation and access in association with a realigned SR 79.

Both the City of San Jacinto and the City of Hemet have adopted, via city council resolutions, Locally Preferred Alternatives (LPAs) for the Project (San Jacinto 2001, Hemet 2008). The respective LPAs are included in the General Plans of each jurisdiction. Riverside County has not designated an LPA but has included the build alternatives in the County General Plan. In addition, the MSHCP has specific criteria included so that the Project is provided “Covered Activity” status.

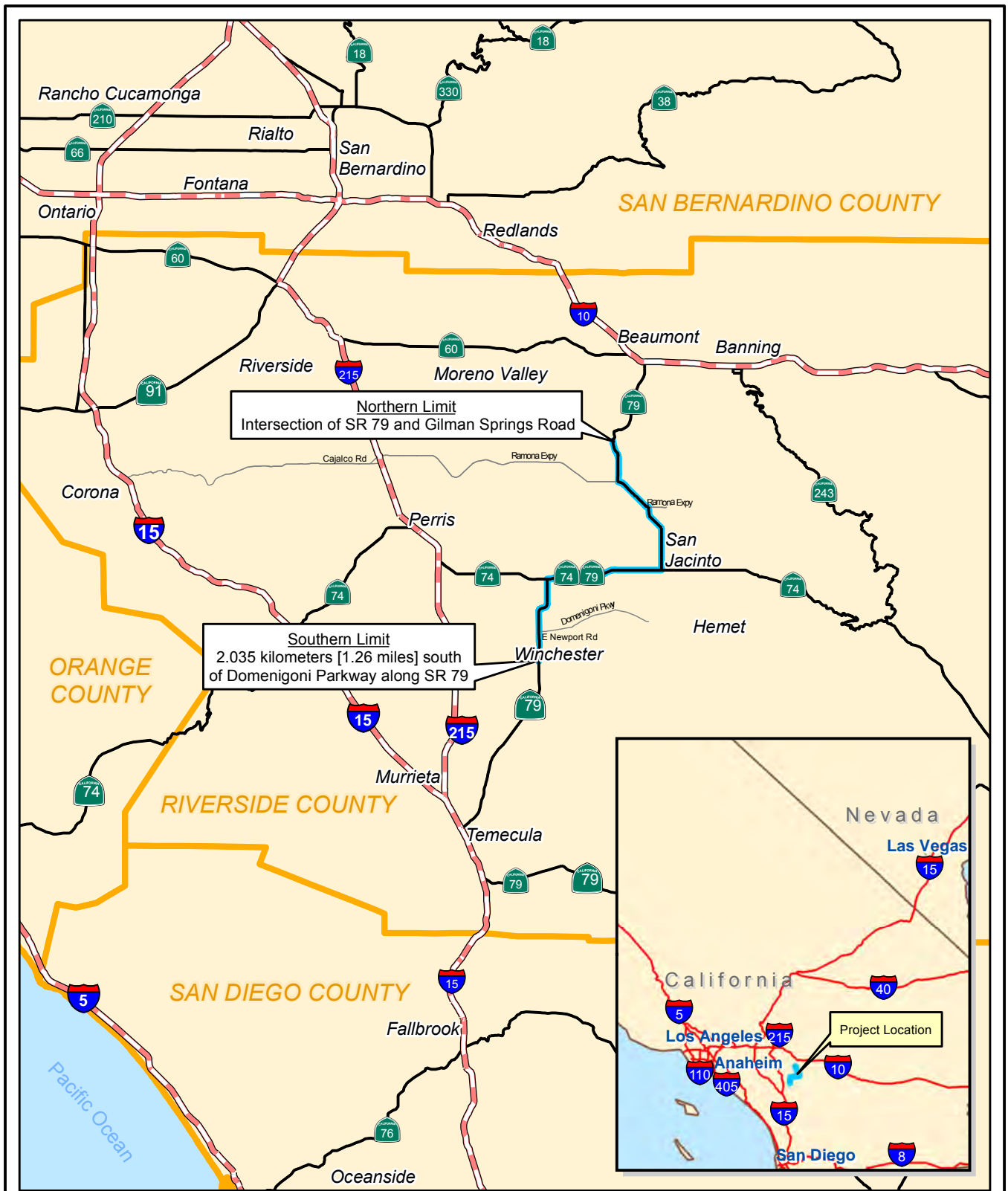
The Project alternatives and design options developed are consistent with federal, state, regional, and local planning policies regarding traffic and circulation, public services, safety, and land use plans. The Project addresses the vision and long-range goals, policies, and strategies for development and population growth in the county.

1.5 NEPA/Section 404 Integration Process Memorandum of Understanding

The Project was conducted under the 1994 NEPA/404 Integration Process Memorandum of Understanding (MOU), which is provided as Appendix A to this document. Figure 1.0 of the MOU (Appendix A) shows the steps involved with this process. Key milestone actions under that process included the development of the Project Purpose and Need (2003) and continued with the determination of environmental screening criteria (including field surveys) and the screening of preliminary alternatives (2004 and 2005), formal scoping (2005), and the selection of the build alternatives to be included in technical studies and the EIR/EIS (2005). This effort was undertaken because of the potential for substantial impacts to waters of the United States, primarily to wetlands (vernal pools) and the species they support, including listed and endemic species. Each of the approving or commenting federal and state agencies associated with these resources participated in this process to ensure that impacts to resources of concern would be avoided or minimized.

The alternatives were further refined through the NEPA/404 MOU integration process, incorporating comments from the public scoping process, as well as from the analyses in technical studies. In addition to the build alternatives, a No Build Alternative has been included as required by NEPA/CEQA regulations. The Project alternatives to be analyzed were identified in the May 21, 2007, *Request for Final Agreement on Build Alternatives to be Identified in the Draft Environmental Impact Statement for State Route 79 Realignment Project from Domenigoni Parkway to Gilman Springs Road* (FHWA 2007a). These Project alternatives were approved by each of the NEPA/CWA Section 404 Integration Process MOU signatory agencies in their respective Final Agreements in July 2007 (FHWA 2007a-c; USACE 2007; USEPA 2007; USFWS 2007).

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Basemap Data: ESRI StreetMaps, 2004.

\\GALT\PROJ\RCTC\171146\2014\MAPFILES\CKPTC\PAD-RPL_A.MXD PAD-RPL_A.PDF 09/30/2014

LEGEND

- Existing State Route 79
- Proposed for Realignment
- Interstate^{ES}
- State Route^{ES}
- Local Road^{ES}
- County Boundary^{CR}

Sources: CR - County of Riverside; ES - ESRI

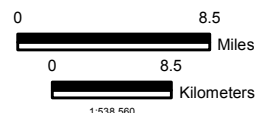


Figure 1.3-1

Regional Project Location
Preferred Alternative/Preliminary
Identification of LEDPA
State Route 79 Realignment Project

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Chapter 2 Alternatives Development

2.1 Checkpoint A – Overall Project Purpose and Need

As part of the Project development process, state and federal resource agencies were consulted regarding the proposed Project. Resource agency meetings were initiated during the preparation and review of the Project's Purpose and Need (2003), as specified under the NEPA/CWA Section 404 Integration Process MOU. This approach was adopted for the Project because construction had the potential to permanently impact more than 5 acres of jurisdictional wetlands. In December 2003, USACE and USEPA provided a preliminary agreement on the Project purpose and need pursuant to the NEPA/CWA Section 404 Integration Process MOU, which is provided as Appendix A to this document.

2.2 Checkpoint B – Range of Alternatives

The Project alternatives were developed over many years in accordance with the NEPA/CWA Section 404 Integration Process in a joint effort among Caltrans, FHWA, USACE, USEPA, USFWS, CDFW, RWQCB, RCTC, City of Hemet, City of San Jacinto, and County of Riverside, and are supported by community involvement. The results of that effort are documented in the following reports, provided in Appendix B:

- *State Route 79 Realignment Study Report* (January 1998)
- *PSR/PDS* (January 2002)
- *Final Project Criteria and Alternatives Selection for Preliminary Agreement* (June 2004)
- *Supplemental Information for Project Criteria and Alternatives Selection for Updated Preliminary Agreement* (May 2005)
- *Request for Updated Preliminary Agreement for Project Criteria and Alternatives Selection and Responses* (August 2005)

Chapter 5 of this report contains details on the process of selecting the Project alternatives. The Project alternatives were approved by each of the NEPA/CWA Section 404 Integration Process MOU signatory agencies in their respective Final

Agreements in July 2007 (FHWA 2007a-c; USACE 2007; USEPA 2007; USFWS 2007).

2.3 Coordination to Date for Checkpoint C

Checkpoint C has not been officially initiated; however, USACE provided informal guidance in September 2013 regarding elements to include in the Checkpoint C document. USACE also provided guidance on functional assessments and mitigation.

Chapter 3 Alternatives Considered and Withdrawn from Further Study

This section describes the alternatives eliminated prior to the preparation of the Draft EIR/EIS, which were no longer viable for the Project.

3.1 Route Concept Report (1992)

The Project development process was begun in 1992 with the release of the Route Concept Report for SR 79 (Caltrans 1992). Within the document, the intent to realign this portion of SR 79 and the concept for the ultimate facility type were stated. The conclusion of this report was to initiate a study to analyze potential alternatives for the proposed Project.

3.2 State Route 79 Realignment Study Report (1998)

The State Route 79 Realignment Study Report (January 1998) documented the first attempt to identify alternatives for the proposed Project. The alternatives developed included the No Build Alternative, as well as eight design alternatives. This included four alternatives for the southern section (Domenigoni Parkway to north of Devonshire Avenue) and four for the northern section (north of Devonshire Avenue to Gilman Springs Road) of the San Jacinto Valley. They are identified as Alternatives A through H in the report. The material in the Realignment Study Report was used to initiate a discussion of the proposed Project with the public and regulatory agencies. The report concluded with documentation of the meetings and did not eliminate any of the alternatives from further study.

3.3 Project Study Report/Project Development Support (2002)

Following the completion of the Realignment Study Report (1998), a study was prepared to advance the detail on the alternatives considered for the Project. The PSR/PDS (2002) was developed to advance the concepts for the alternatives for the proposed Project. Because of this study, the initial eight design sections were improved to create a number of alternative segments for the Project. The locations of these segments in the San Jacinto Valley are shown on Exhibit H of the PSR/PDS, provided in Appendix B. Summaries of the eliminated segments are provided below.

Segment WR: As stated in the PSR/PDS, this alignment runs on top of existing Warren Road, which would remove the capacity of the existing road from the local circulation. Segment WR was eliminated because it would have created a regulatory constraint due to the inconsistency with the City of San Jacinto Circulation Element of the General Plan because it would remove that segment of Warren Road from the local circulation identified within the General Plan.

Segment 5N: This alignment also runs on top of existing Warren Road, which would remove the capacity of the existing road from the local circulation. Segment 5N was eliminated because it would have created a regulatory constraint due to the inconsistency with the City of San Jacinto Circulation Element of the General Plan because it would remove that segment of Warren Road from the local circulation identified within the General Plan.

Segment 6N: This alignment cuts several parcels at a diagonal. Segment 6N was eliminated because the large skew angle between the SR 79 and Ramona Expressway would require a much longer structure than a perpendicular crossing and the interchange geometrics would require a larger amount of land to provide proper intersection geometrics for the ramp intersections.

Segment 3N: This alignment was modified to become Alignment 3NR as shown in Exhibit B. Segment 3N was eliminated because it would not be compatible with current Caltrans design standards. Interchanges would have a smaller skew angle, which would be on a large radius curve such that it would require a large amount of land to provide the necessary turning movements when compared with a standard perpendicular crossing at existing and/or planned future interchanges.

Segment 2N: This alignment impacts the wetlands area adjacent to the wastewater treatment plant. Segment 2N was eliminated to avoid a regulatory constraint. Segment 2N was not compatible with current and planned land uses (public wastewater treatment facility) and would have impacted biological resources (wetlands).

Segment 4N: This alignment also impacts the wetlands area adjacent to the wastewater treatment plant. Segment 4N was eliminated to avoid a regulatory constraint. Segment 4N was not compatible with current and planned land uses (public wastewater treatment facility) and would have impacted biological resources (wetlands).

Segment 1N: This alignment is too close to existing Sanderson Avenue and would create geometry at its crossing of Sanderson Avenue that would not be compatible with current Caltrans design standards. The skew angle between Sanderson Avenue and the proposed alignment would require major realignment of Sanderson for an at-grade intersection in the expressway condition and for a freeway condition the structure would be very long over Sanderson. Also, the geometrics for an interchange with Sanderson and SR 79 would not be standard. A far greater amount of land would be needed than with a perpendicular crossing.

Segment 1M: This alignment impacts the vernal pool complex on the east side of the San Diego Canal. There was a preliminary biological resources survey prepared in 2001. The survey found that the alignment would have occurred on top of two of the largest vernal pool complexes in the playa, which contained listed plant species. It would have eliminated a great deal of the playa (estimated at 25 to 40 percent), potentially disrupted the hydrology for half of the playa, and eliminated 2 of the 3 largest vernal pools in the complex. Segment 1M was eliminated to avoid a regulatory constraint and impacts to biological resources of the vernal pool complex, which is regulated by USACE, CDFW, and RWQCB, because it is a water of the U.S. per Section 404 of the CWA.

Segment 2M: Similar to Segment 1M, this alignment impacts the vernal pool complex on the east side of the San Diego Canal. There was a preliminary biological resources survey prepared in 2001. The survey found that the alignment would have occurred on top of two of the largest vernal pool complexes in the playa, which contained listed plant species. It would have eliminated a great deal of the playa (estimated at 25 to 40 percent), potentially disrupted the hydrology for half of the playa, and eliminated 2 of the 3 largest vernal pools in the complex. Segment 2M was eliminated to avoid a regulatory constraint and impacts to biological resources of the vernal pool complex, which is regulated by USACE, CDFW, and RWQCB, because it is a water of the U.S. per Section 404 of the CWA.

Segment 5S: This alignment was shifted to the west to provide greater separation from the end of the runway at the Hemet-Ryan Airport. SR 79 is required to be far enough west to provide room for the runway expansion and for the realignment of Warren Road. Segment 5S was revised to meet Federal Aviation Administration design standards for a runway protection zone. As such, Segment 5S was eliminated and replaced with Segment 2MR.

Segment 2S: This alternative was eliminated because it did not meet the Project's purpose and need. As stated in the PSR/PDS, this alignment uses existing Domenigoni Parkway between Winchester Road and California Avenue, which combines east-west traffic with north-south traffic and minimizes the overall capacity of this link in the overall highway system.

Segment 1S: This alternative was eliminated to avoid a regulatory constraint. As discussed in the PSR/PDS, this alignment would run adjacent to and just south of Domenigoni Parkway between Winchester Road and California Avenue. This would impact habitat for the Quino Checkerspot Butterfly, which is a listed species regulated by USFWS, and would also make the geometrics of an interchange with Domenigoni Parkway not compatible with current Caltrans design standards.

Segment 4S: This alignment would have paralleled the railroad tracks, either being north of the railroad or having the railroad tracks in the median of SR 79. It was concluded that the vernal pools present east of California Avenue and north of the railroad would make any construction on the north side of the railroad tracks undesirable from an environmental standpoint. Segment 4S was eliminated to avoid a regulatory constraint, as it would have an increased impact to potential biological resources. Segment 4S is being carried forward as Alignment 4SR and will run on the south side of the railroad tracks to avoid the impact to the vernal pools.

Sanderson Avenue: This alignment would have upgraded existing Sanderson Avenue to expressway standards; however, this alternative was found to be unreasonable because of the existing development, numerous signals, and driveway connections along Sanderson Avenue. This alternative would also not meet the Project's purpose and need because it would remove the capacity of the existing road.

Existing SR 79: The alternative of upgrading the existing SR 79 alignment was eliminated as unreasonable because of the existing development, numerous traffic signals, and private driveway connections along alignment. As stated in the PSR/PDS, upgrading this alignment to expressway standards would result in massive disruption to the business districts of these communities and would not be compatible with adjacent land uses. Moreover, this alternative would not meet the Project's purpose and need because it would remove the capacity of the existing road.

The segments considered appropriate for further study are shown on Exhibit B of the PDR/PDS. These include Segment WRR, Segment 6S, Segment 2MR, Segment 3MR, Segment 4SR, and Segment 3SR.

3.4 Final Project Criteria and Alternatives Selection for Preliminary Agreement (June 2004)

As part of the Project development process, the state and federal resource agencies were consulted regarding the proposed Project. Resource agency meetings were initiated during the preparation and review of the Project's Purpose and Need (2003), as specified under the NEPA/CWA Section 404 Integration Process. This approach was adopted for the Project because construction had the potential to permanently impact more than 5 acres of jurisdictional wetlands. During this early consultation, the resource agencies identified that the biological resources within the areas of the San Jacinto Valley, primarily in an alkali vernal pool/playa complex in Hemet, were deemed so biologically sensitive (supporting threatened and endangered species, some endemic) that a more comprehensive review of the proposed Project build alternatives was requested. This resulted in a more comprehensive approach to reviewing all possible alignment alternatives in the San Jacinto Valley for the Project.

As part of this process, 91 roadway segments between Domenigoni Parkway and Gilman Springs Road were identified. Included in the 91 roadway segments were the segments evaluated in the PSR/PDS. This meant that any alternative previously considered and/or eliminated for the Project as part of the PSR/PDS was now being reconsidered for the Project. To analyze each segment, they were classified by type and then screened against essential Project criteria. Segments were eliminated from further evaluation if they were inconsistent with the Project purpose and need or were otherwise infeasible or avoidable based on constructability, environmental impacts, or reasonability. Based on criteria screening, 30 segments were eliminated from further evaluation. Eleven segments were eliminated for MSHCP avoidance, five segments were eliminated because of community impact avoidance, six segments were eliminated for Section 4(f) avoidance, four segments were eliminated because of inconsistencies with the Project purpose and need, three segments were eliminated for Hemet Ryan Airport avoidance, and one segment was eliminated for landfill avoidance. In addition, 11 segments were eliminated from further evaluation due to their connection to an eliminated segment and subsequent isolation from the remaining viable segments. The roadway segments reviewed in this process are shown on Figure ES of the 2004 *Final Project Criteria and Alternatives Selection for Preliminary Agreement*. Each of the eliminated segments is shown in a color that identifies the criterion applied to remove it from further evaluation. Those segments that were deemed appropriate for further analysis are shown on Figure E3 of the 2004 *Final Project Criteria and Alternatives Selection for Preliminary Agreement*.

This analysis was documented in the report *Final Project Criteria and Alternatives Selection for Preliminary Agreement* (June 2004).

Based on the results of the screening evaluation described above, segments were considered collectively to identify complete alignment alternatives for further study. In areas where more than one segment remained and similarities occurred (i.e., adjacent location or connection points from and to other segments), an “Alignment Review Area” was created. The Alignment Review Areas created for the remaining roadway segments are shown in Figure K of the 2004 *Final Project Criteria and Alternatives Selection for Preliminary Agreement* and consolidated and shown in Figure L1 of that document (provided in Appendix B of this report).

At the conclusion of this report, three alignment alternatives containing Alignment Review Areas (corridors) were identified and proposed for further analysis for the Project. They included the Western, Central, and Eastern alignments (Figures L2, L3, and L4 of the 2004 *Final Project Criteria and Alternatives Selection for Preliminary Agreement*). The resource agencies approved these alignment alternatives for the Project, as documented in the correspondence for Preliminary Agreement pursuant to the NEPA/CWA Section 404 Integration Process MOU.

3.5 Value Analysis Study Report (2006)

A Value Analysis Study was conducted for the Project to review alternatives to optimize Project design with respect to costs and impacts. Through this process, a new Value Analysis alternative was identified and accepted for the Project. This alternative was determined acceptable because it would reduce the environmental impact and improve the separation between regional and local traffic in the area. This alternative was named the “Midwestern Alternative.”

3.6 Supplemental Information for Project Criteria and Alternatives Selection for Updated Preliminary Agreement (May 2005) and Request for Updated Preliminary Agreement for Project Criteria and Alternatives Selection and Responses (August 2005)

After the Preliminary Agreement was issued, new information was acquired for the Project and shared with the resource agencies. As a result, FHWA made a request to the resource agencies to remove Segment 6 from the Project and substitute the New

Alternative for the Eastern Alternative. Segment 6 was determined, with the assistance of USFWS, to impact Southwestern Riverside County Multispecies Reserve. Segment 6 was eliminated to avoid impacts to the Southwestern Riverside County Multispecies Reserve. The Eastern Alternative was proposed to be eliminated to minimize substantial community impacts. This information is documented in *Supplemental Information for Project Criteria and Alternatives Selection for Updated Preliminary Agreement* (May 2005). The locations of the segments removed from further analysis are shown in Figure E4 of that document (provided in Appendix B of this report). Segment 6 and the Eastern Alternative are shown in red on Figure E4. In addition, eight segments (Segments 17, 27, 28, I-K, K-M, M-U, W-Z, and FF-NN), shown in yellow on Figure E4, were eliminated from further evaluation due to their connection to an eliminated segment and subsequent isolation from the remaining viable segments. The proposed eliminations were approved by the resource agencies (Updated Preliminary Agreement), and the Eastern Alignment and the isolated segments were eliminated from further consideration for the Project.

The remaining roadway segments for this analysis are shown in Figure E5 of the 2005 *Supplemental Information for Project Criteria and Alternatives Selection for Updated Preliminary Agreement*. The corresponding alternative corridors, Western (Corridor 1), Central (Corridor 2), and Midwestern (Corridor 3), are shown, respectively, on Figures L5 through L8 of that document. This decision was documented in the *Request for Updated Preliminary Agreement for Project Criteria and Alternatives Selection and Responses* (August 2005).

During the process of obtaining Updated Preliminary Agreement, the City of Hemet proposed and elected on May 24, 2005, to adopt an “Interim Urgency Ordinance” establishing the Western Hemet Planning Area and temporary development regulations applicable to this Planning Area, pending completion of a comprehensive and collaborative planning process. The intent of this ordinance was to provide the Project technical team time to complete the review of the Midwestern Alternative prior to making decisions on the development applications in the immediate area of the alternative.

Subsequent to the technical review, the City of Hemet changed its designation of the LPA from the alignment shown in the 1992 Hemet General Plan (Central Alternative [Corridor 2]) to the Midwestern Alternative (Corridor 3). This was documented in the City of Hemet Resolution No. 4216, dated May 13, 2008. As a result of this action, the Central Corridor was also eliminated from further study for the Project.

3.7 Additional Coordination

Refinement of the Western, Midwestern, and Central Alignments continued in 2006 and 2007. As a result of the environmental field survey work done on all the alternatives, it became apparent that the Central Alignment would heavily impact the vernal pool complex that is south of Florida Avenue and east of the San Diego Canal. Other segments carried forward would not have as large an environmental impact on vernal pool resources as the Central Alignment. After discussions with the various stakeholders, it was agreed to eliminate the Central Alignment from further consideration to avoid impacts to vernal pools, biological resources, and MSHCP proposed conservation areas. The Central Alignment is shown as Alignment Review Area A on Figures L5 and L7 of the 2005 *Supplemental Information for Project Criteria and Alternatives Selection for Updated Preliminary Agreement* (provided in Appendix B of this report).

Once this was accomplished, the Western and Midwestern alignments were renamed as Alternative Corridors 1 and 2, respectively. Build Alternatives 1a, 1b, 2a, and 2b were established to represent four sets of possible roadway segment combinations from those two corridors. This naming convention was then carried forward into formal scoping and the preparation of the technical reports for the Project. These build alternatives are described in Chapter 4.

3.8 Winchester Homeowners Association Comments (2009)

In May 2009, comments were received from the public (specifically the Winchester Homeowners Association and the County of Riverside) regarding the design of the Project. The Winchester Homeowners Association requested that two items be considered in a modified design. The first was a lower profile of the roadway south of Stowe Road. The second was access at Newport Road. Because of the comments received, the Project alternatives were modified and now include design options (Design Options 1b1 and 2b1) to the base condition for Build Alternatives 1b and 2b. The design options are described in Chapter 4.

Chapter 4 Alternative Roadway Alignments Analyzed and Brought Forward for Further Review

This section discusses the No Build Alternative and seven build alternatives: Build Alternatives 1a, 1b, 2a, 2b, and Design Options 1b1 and 2b1. Subsequent to the circulation of the Draft EIR/EIS, another build alternative was identified as Build Alternative 1b with Refinements (Build Alternatives 1br). Build Alternative 1br incorporated design refinements to comply with Caltrans mandatory design standards, to minimize impacts to the Traditional Cultural Property (TCP) identified during Native American consultation in 2013 and 2014, and in response to public and agency comments on the Draft EIR/EIS.

Each build alternative was defined based on specific elements of roadway design. As illustrated on Figure 4.0-1, Project Roadway Segments, each build alternative is composed of a combination of several roadway segments. Roadway segments have been created to describe the Project at specific locations along the alignment. There are 14 potential roadway segments (designated A through N, south to north). The typical cross section for the Project was first defined in the 1992 Route Concept Report. The ultimate concept for the facility is a six-lane expressway (three lanes in each direction). The typical dimensions proposed for the Project are those designated by Riverside County for a six-lane expressway. These dimensions include an 18.2-meter (m) (60-foot [ft]) median and a 67.0-m (220-ft) ROW. This is from Riverside County Road Improvement Standards & Specifications, Ordinance 461, Standard 82.

Roadway segments were designed from a typical cross section for a limited-access expressway according to these standards. A smaller typical section could be considered during final design to reduce ROW and environmental impacts; however, to ensure that all environmental impacts would be analyzed, the smaller cross section was not considered at this time. Based on the typical cross section, roadway segments would include inside and outside shoulders, a median, and two lanes in each direction (referred to as the Project roadway). The median width would be 25.8 m (84.0 ft) measured from the inside edge of the travel lane on one side of the roadway to the inside edge of the travel lane on the other side. This median width would be consistent with Riverside County Standard 82 because it allows room for a future project to add two more lanes (to achieve the ultimate six-lane concept) without

increasing the ROW. Within the median, there would be inside shoulders that are each 1.5 m (5.0 ft) wide. The combined width of the two travel lanes would be 7.2 m (24.0 ft), each 3.6 m (12.0 ft) wide. The outside shoulder width would be 3.0 m (10.0 ft). Side slopes would be required outside the shoulders. An additional 4.6 m (15.0 ft) beyond the toe of slope/top of cut would be provided for maintenance.

Because the width of the side slopes would vary based on the elevation along the roadway, a varying ROW would be required. Therefore, the actual width of the Project ROW would range from 70 m (230 ft) to 620 m (2,035 ft), based on locations that include roadway versus those that include interchanges, respectively.

All build alternatives' design features include:

- At-grade intersections to allow at-grade access to, from, or across the realigned SR 79
- Grade-separated interchanges (ramps) to allow grade-separated access to and from the realigned SR 79
- Bridges to allow grade-separated roadway crossings of existing features, including local cross streets, surface waterways, and railroad tracks
- Aqueduct crossings to allow continuation of realigned SR 79 across the Metropolitan Water District of Southern California (MWD) Colorado River Aqueduct (CRA)
- Local street improvements to provide adequate at-grade intersection and grade-separated interchange spacing, maintain local access, provide cul-de-sacs on streets where access has been removed, and provide conforming roadway geometry based on applicable standards
- Drainage facilities to minimize adverse effects to water quality, maintain onsite drainage, and direct offsite stormwater away from the Project during operation
- Relocation of utilities

Unique design features of the Project include the specific locations of common features in addition to unique design features are that only found in particular build alternatives. Unique design features only found in particular build alternatives include:

- Utility relocation areas
- Connections to Hemet Channel outside the Project ROW

4.1 No Build Alternative

The No Build Alternative would require no action by the Project proponent. Existing and projected capacity and operational benefits would not be realized. Existing SR 79 would not be realigned, ROW would not be acquired, and roadway construction would not occur.

The assumptions used for the traffic analysis of the No Build Alternative at the 20-Year Design Horizon of the Project (2035) include:

- The Mid County Parkway (formerly Cajalco/Ramona Corridor) would be a four-lane expressway.
- Arterial streets would be built to City or County General Plan classification standards by 2035.
- Improvements planned by Caltrans and the County of Riverside for the portion of SR 79 between Hunter Road and Newport Road would be in place. There would be no further improvements on this portion of SR 79 before 2035.
- Regional facilities would be in accordance with the Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP).

The portion of SR 79 proposed for realignment would remain in place and unchanged. The selection of the No Build Alternative would not preclude construction of projects currently included in the General Plans of Riverside County, the City of Hemet, and the City of San Jacinto or of projects that might be proposed in the future.

4.2 Build Alternative 1a

Build Alternative 1a would consist of Roadway Segments A, E, G, I, J, L, N; Utility Relocation Areas 1 and 2; and Connections 1 and 2 to Hemet Channel outside of the ROW. This build alternative would begin at existing SR 79 south of Newport Road. Going north, the alignment would cross under Newport Road and swing westerly before a long curve to the east takes it over Domenigoni Parkway, Salt Creek Channel, Winchester Road, and Olive Avenue on a viaduct structure. The alignment would continue northeast, crossing over Whittier Avenue, Patterson Avenue, and Simpson Road, then take a long curve to the north, where it would cross over the San Jacinto Branch Line. It then would cross over Ranchland Road, where a full interchange is proposed, and continue farther north over Stowe Road. It would take a

long curve around the mountain in an easterly direction, where it would cross over California Avenue. The alignment would then curve back northeast and cross over Florida Avenue, where a full interchange is proposed. From Florida Avenue, the alignment would continue north, crossing under Devonshire Avenue, then under Tres Cerritos Avenue, where a full interchange is proposed. Continuing north, it would cross over Esplanade Avenue, Warren Road, and the San Diego Canal. It would cross the San Diego Canal north of Esplanade Avenue. A full interchange is proposed at Esplanade Avenue. The alignment would then continue northeasterly and cross over Seventh Street. From there, it would continue north, crossing under Cottonwood Avenue and continuing over the Casa Loma Canal. It then would cross over a Future Street, where a full interchange is proposed, and would take a long curve to the east for a short distance, then curve again to the north, where it would cross under Sanderson Avenue, then over the Colorado River Aqueduct. The alignment would continue north, crossing over the Ramona Expressway and a future drainage facility, where it would tie into existing SR 79 just south of the San Jacinto River.

4.3 Build Alternative 1b

Build Alternative 1b would consist of Roadway Segments B, C, G, I, K, M, N, and Utility Relocations Areas 1 and 2. This build alternative would begin at existing SR 79 south of Newport Road. Going north, the alignment would cross under Newport Road, then swing east and cross over Patterson Avenue and Patton Avenue. It would continue northeast and cross over Domenigoni Parkway, Salt Creek Channel, and Olive Avenue on a viaduct structure. The alignment would then continue north, where it would cross Simpson Road and the San Jacinto Branch Line. It would cross over Ranchland Road, where a full interchange is proposed, then continue farther north over Stowe Road. It then would take a long curve around the mountain in an easterly direction, where it would cross over California Avenue. The alignment would then curve back northeast and cross over Florida Avenue, where a full interchange is proposed. From Florida Avenue, the alignment would continue north and cross under Devonshire Avenue, then under Tres Cerritos Avenue, where a full interchange is proposed. It would continue north, crossing over Esplanade Avenue, Warren Road, and the San Diego Canal. It would cross the San Diego Canal south of Esplanade Avenue. A full interchange is proposed at Esplanade Avenue. The alignment would then continue northeast and cross over Seventh Street. It would continue and cross under Cottonwood Avenue, then take a long curve to the northeast and continue parallel to the Casa Loma Canal. It would then cross under Sanderson

Avenue and take a long curve to the north, where it would cross over the Colorado River Aqueduct. The alignment would then continue north and cross over the Ramona Expressway and a future drainage facility, where it would tie into existing SR 79 just south of the San Jacinto River.

4.4 Design Option 1b1

Design Option 1b1 would consist of the same roadway segments and unique design features as Build Alternative 1b. This build alternative would begin at existing SR 79 south of Newport Road. Going north, the alignment would cross under Newport Road, then swing easterly and cross over Patterson Avenue and Patton Avenue. It would continue northeast, crossing over Domenigoni Parkway, Salt Creek Channel, and Olive Avenue on a viaduct structure. The alignment would then continue north, where it would include an at-grade crossing at Simpson Road. The alignment would continue north, crossing over the Hemet Channel, and would be near grade as it crosses the San Jacinto Branch Line. Farther north, Ranchland Road would cross over SR 79, where a full interchange is proposed. SR 79 would continue north, with the profile rising to take the alignment over Stowe Road. Continuing north, the alignment would curve around the mountain in an easterly direction, where it would cross over California Avenue. The alignment would then curve back northeast and cross over Florida Avenue, where a full interchange is proposed. From Florida Avenue, the alignment would continue north, crossing under Devonshire Avenue, then under Tres Cerritos Avenue, where a full interchange is proposed. It would continue north, crossing over Esplanade Avenue, Warren Road, and the San Diego Canal. It would cross the San Diego Canal south of Esplanade Avenue. A full interchange is proposed at Esplanade Avenue. The alignment would then continue northeast and cross over Seventh Street. It would continue and cross under Cottonwood Avenue, then take a long curve to the northeast and continue parallel to the Casa Loma Canal. It would then cross under Sanderson Avenue and take a long curve to the north, where it would cross over the Colorado River Aqueduct. The alignment would continue north over the Ramona Expressway and a future drainage facility, where it would tie into existing SR 79 just south of the San Jacinto River.

4.5 Build Alternative 2a

Build Alternative 2a would consist of Roadway Segments A, F, H, I, K, L, N; Utility Relocation Areas 1 and 2; and Connection 3 to Hemet Channel Outside of the ROW. This build alternative would begin at existing SR 79 south of Newport Road.

Going north, the alignment would cross under Newport Road, then swing west before a long curve to the east takes it over Domenigoni Parkway, Salt Creek Channel, Winchester Road, and Olive Avenue on a viaduct structure. The alignment would continue east, where it would cross over Whittier Avenue and Patterson Avenue. It would then cross over the Hemet Channel and take a long curve to the north, where it would cross Simpson Road and a Future Street, where a full interchange is proposed. The alignment would then continue north over the San Jacinto Branch Line, then farther north over Stowe Road. It would continue northeast and cut through the mountain, then cross over California Avenue and Florida Avenue, where a full interchange is proposed. From Florida Avenue, it would continue north and cross under Devonshire Avenue, then under Tres Cerritos Avenue, where a full interchange is proposed. It would continue north, crossing over Esplanade Avenue, Warren Road, and the San Diego Canal. It would cross the San Diego Canal south of Esplanade Avenue. A full interchange is proposed at Esplanade Avenue. The alignment would then continue northeast and cross over Seventh Street. It would continue north, crossing under Cottonwood Avenue and over the Casa Loma Canal. It would then cross over a Future Street, where a full interchange is proposed, and take a long curve to the east for a short distance, then curve around to the north, where it would cross under Sanderson Avenue, then over the Colorado River Aqueduct. The alignment would then continue north over Ramona Expressway and a future drainage facility, where it would tie into existing SR 79 just south of the San Jacinto River.

4.6 Build Alternative 2b

Build Alternative 2b would consist of Roadway Segments B, D, H, I, J, M, N, and Utility Relocation Areas 1 and 2. This build alternative would begin at existing SR 79 south of Newport Road. Going north, the alignment would cross under Newport Road, then swing easterly and cross over Patterson Avenue and Patton Avenue. It would continue northeast as it crosses over Domenigoni Parkway, Salt Creek Channel, and Olive Avenue on a viaduct structure. The alignment then would continue north, where it would cross Simpson Road, then continue over the San Jacinto Branch Line. It would then cross over a Future Street, where a full interchange is proposed, then continue farther north over Stowe Road. It would continue northeast as it cuts through the mountain, then cross over California Avenue and Florida Avenue, where a full interchange is proposed. From Florida Avenue, it would continue north and cross under Devonshire Avenue, then under Tres Cerritos Avenue, where a full interchange is proposed. It would continue north, crossing over Esplanade Avenue, Warren Road, and the San Diego Canal. It would cross the

San Diego Canal north of Esplanade Avenue. A full interchange is proposed at Esplanade Avenue. The alignment would then continue northeast and cross over Seventh Street. It would then cross under Cottonwood Avenue, then take a long curve to the northeast and continue parallel to the Casa Loma Canal. It would then cross under Sanderson Avenue and take a long curve to the north, where it would cross over the Colorado River Aqueduct. The alignment would continue north, crossing over the Ramona Expressway and a future drainage facility, where it would tie into existing SR 79 just south of the San Jacinto River.

4.7 Design Option 2b1

Design Option 2b1 would consist of the same roadway segments and unique design features as Build Alternative 2b. This build alternative would begin at existing SR 79 south of Newport Road. Going north, the alignment would cross under Newport Road, then swing easterly and cross over Patterson Avenue and Patton Avenue. It would continue northeast and cross over Domenigoni Parkway, Salt Creek Channel, and Olive Avenue on a viaduct structure. The alignment would then continue north, with an at-grade crossing at Simpson Road. A Future Street would cross over SR 79, where a full interchange is proposed. SR 79 would continue north, crossing over the Hemet Channel, and would be near grade as it crosses the San Jacinto Branch Line. Farther north, the profile would rise, taking the alignment over Stowe Road. It would continue northeast, cutting through the mountain, then cross over California Avenue and Florida Avenue, where a full interchange is proposed. From Florida Avenue, it would continue north, crossing under Devonshire Avenue, then under Tres Cerritos Avenue, where a full interchange is proposed. It would continue north, crossing over Esplanade Avenue, Warren Road, and the San Diego Canal. It would cross the San Diego Canal north of Esplanade Avenue. A full interchange is proposed at Esplanade Avenue. The alignment would then continue northeast and cross over Seventh Street. It would continue under Cottonwood Avenue, then take a long curve to the northeast and continue parallel to the Casa Loma Canal. It would then cross under Sanderson Avenue and take a long curve to the north, where it would cross over the Colorado River Aqueduct. Farther north, it would cross over the Ramona Expressway and a future drainage facility, where it would tie into existing SR 79 just south of the San Jacinto River.

4.8 Preferred Alternative (Build Alternative 1b with Refinements)

The preferred alternative has been identified as Build Alternative 1br, which has a similar alignment and Project limits as Build Alternative 1b. As stated at the beginning of this chapter, Build Alternative 1br incorporated design refinements to comply with Caltrans mandatory design standards and to minimize impacts to the TCP identified during Native American consultation in 2013 and 2014.

Build Alternative 1br consists of Roadway Segments B, C, G, I, J, M, and N and Utility Relocations Areas 1 and 2.

Build Alternative 1br includes the following refinements:

- Access to Winchester: Traffic Signal at Newport Road: An at-grade traffic signal will be provided at the Newport Road /SR 79 intersection. Newport Road will be realigned to Winchester Road to provide direct access to the Community of Winchester.
- Increased loop ramp radii at Domenigoni Parkway: Larger radii loop ramps.
- Shift in interchange location from Ranchland Road to Grand Avenue: The interchange has been shifted south to Grand Avenue.
- Westerly shift of alignment around West Hemet Hills: The alignment has been shifted west within the existing environmental study limits to reduce the cut to West Hemet Hills and reduce impacts to the Traditional Cultural Property (TCP). The revised alignment would include a retaining wall along the west and north side of the alignment and eliminates the need to relocate the existing communication towers. The shift lessens the impact to the West Hemet Hills by reducing the amount of cut.
- Increased loop ramp radii at Florida Avenue: Larger radii loop ramps.
- Removal of Tres Cerritos Interchange: The interchange has been removed in response to public and agency comments received. This eliminates the need to realign Warren Road and eliminates the bridge crossing over the San Diego Canal. A cul-de-sac will be added at Tres Cerritos along the west side of SR 79.
- Esplanade Avenue interchange revisions to eliminate design exceptions: Revised interchange configuration to eliminate the mandatory access control exception.

The new proposed improvements includes a diamond type interchange and allows access along Esplanade Avenue; realigned Maze Stone Court has been eliminated.

- Increased loop ramp radii at Cottonwood Avenue: Larger radii loop ramp.
- Sanderson Avenue interchange revisions to eliminate design exceptions: The interchange configuration for the southbound ramps has been revised to a diamond configuration. This eliminates the mandatory access control exception. SR 79 has been realigned to the southwest and bridges over Sanderson Avenue. The design has been revised to avoid impacts to the newly constructed improvements at the Eastern Municipal Water District (EMWD) facility.
- Increased loop ramp radii at Ramona Expressway: Larger radii loop ramp.

Three primary shifts in the alignment of Build Alternative 1br that differ from Build Alternative 1b as evaluated in the Draft EIR/EIS are:

- Westerly shift of the alignment around the West Hemet Hills
- Southerly shift in the interchange location from Ranchland Road to Grand Avenue to be consistent more with the City of Hemet's General Plan
- Segment J at Esplanade Avenue

In addition, Build Alternative 1br would result in a change to access at Tres Cerritos Avenue and Newport Road. Refinements are within the previously evaluated and analyzed environmental study area. Figures showing refinements are provided in Appendix C to this report. The four build alternatives and the design options proposed in the Draft EIR/EIS remain the same and do not include refinements.

The profile for Build Alternative 1br would be similar to Build Alternative 1b with the exception of the West Hemet Hills, where a steeper profile around the hills has been used to minimize cuts to the West Hemet Hills. In addition, the profile of SR 79 at Sanderson Avenue has been modified to bridge over Sanderson Avenue instead of Sanderson Avenue bridging over SR 79.

Table 4.8-1, Comparison of Build Alternative 1b and Build Alternative 1b with Refinements, evaluates the refinements associated with Build Alternative 1b in comparison to what was originally evaluated in the Draft EIR/EIS.

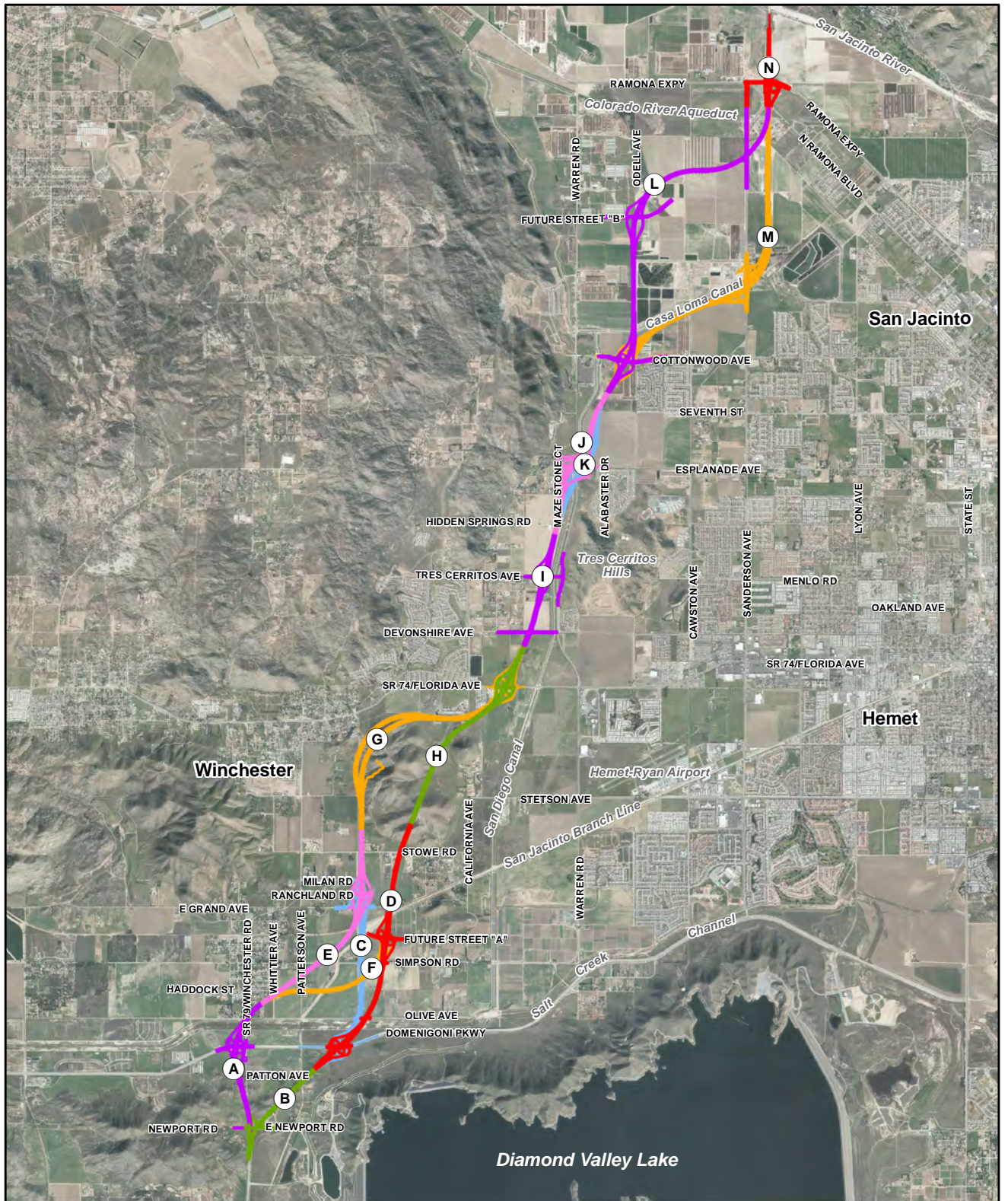
Table 4.8-1. Comparison of Build Alternative 1b and Build Alternative 1b with Refinements

Refinement Location	Build Alternative 1b as shown in the Draft EIR/EIS	Build Alternative 1b with Refinements	Reason for Change
Newport Road - Access to Winchester	Newport Road bridge over SR 79	<ul style="list-style-type: none"> - Removed Newport Road over SR 79 - Realigned Newport Road to existing Winchester Road - Added connection from Newport Road to parcels along west of SR 79 - Revised intersection from grade separated intersection to signalized at-grade intersection 	Public comments have been received from the Winchester Homeowners Association.
Domenigoni Parkway interchange	Full interchange with bridge over Domenigoni Parkway	Full interchange with bridge over Domenigoni Parkway and revised loop ramp configuration	Design has been updated to increase the loop ramp radii.
Grand Avenue interchange	Full interchange with bridge over Ranchland Road	<ul style="list-style-type: none"> - Shifted interchange from Ranchland Road to Grand Avenue - Added a cul-de-sac at Ranchland Road 	The City of Hemet General Plan includes an interchange at Grand Avenue for Build Alternative 2b. An interchange at Grand Avenue may be acceptable to the City for local circulation.
West Hemet Hills	Alignment located along the westerly edge of the West Hemet Hills	Shifted and revised curvature of alignment further away from the West Hemet Hills	Alignment was shifted to the west to reduce the cut to West Hemet Hills and reduce impacts to the TCP. The revised alignment also eliminated the need to relocate existing communication towers.
Florida Avenue interchange	Full interchange with bridge over Florida Avenue	Full interchange with bridge over Florida Avenue and revised loop ramp configuration	Design has been updated to increase the loop ramp radii.
Tres Cerritos Avenue interchange	Full interchange with Tres Cerritos Avenue bridging over SR 79	<ul style="list-style-type: none"> - No interchange or Tres Cerritos Avenue bridge over SR 79 - Removed realignment of Warren Road - Removed bridge over the San Diego Canal 	Public comment received and the interchange was not needed to accommodate traffic, see Draft Supplemental Traffic Study.
Esplanade Avenue interchange	Bridge over Esplanade Avenue, Warren Road, and San Diego Canal	<ul style="list-style-type: none"> - Revised interchange configuration - Removed realigned Maze Stone Court 	The mandatory design exception for access control changed from Advisory to Mandatory with the new Highway Design Manual (HDM) standards. Interchange configuration was modified to comply with the new HDM standards.
Cottonwood Avenue interchange	Full interchange with Cottonwood Avenue bridging over SR 79	Full interchange with Cottonwood Avenue bridging over SR 79 and revised loop ramp configuration	Design has been updated to increase the loop ramp radii.
Sanderson Avenue interchange	Full interchange with Sanderson Avenue bridging over SR 79	<ul style="list-style-type: none"> - Revised interchange configuration for southbound ramps - Realigned SR 79 to bridge over Sanderson Avenue 	Design has been refined to avoid impacts to the newly constructed improvements at the EMWD facility. In addition, the mandatory design exception for access control changed from Advisory to Mandatory with the new HDM standards. Interchange configuration was modified to comply with the new HDM standards.

Table 4.8-1. Comparison of Build Alternative 1b and Build Alternative 1b with Refinements

Refinement Location	Build Alternative 1b as shown in the Draft EIR/EIS	Build Alternative 1b with Refinements	Reason for Change
Ramona Expressway	SR 79 over Ramona Expressway	SR 79 over Ramona Expressway and revised loop ramp configuration	Design has been updated to increase the loop ramp radii.

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Aerial Date: February 2011, Aero-Graphics, Inc

\\GALT\PROJ\RCTC\171146\2014\MAPFILES\CKPTC\PAD_SGS_A.MXD PAD_SGS_A.PDF 09/30/2014

Note: This figure depicts the proposed roadway alignment by roadway segment. The roadway segments are shown in multiple colors to differentiate them from each other. The colors and letters shown on the roadway alignment identify independent roadway segments that have been assembled to create Project Build alternatives.

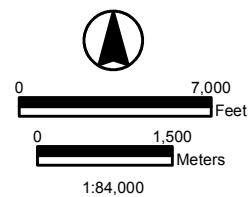


Figure 4.0-1
Project Roadway Segments
Preferred Alternative/Preliminary
Identification of LEDPA
State Route 79 Realignment Project

**DRAFT - NOT FOR
PUBLIC CIRCULATION**

Chapter 5 Alternative Selection Criteria and Comparison of Alternatives

This first part of this chapter provides a summary of the criteria used by the Project Development Team to select a preferred alternative. The second part of this chapter specifically addresses the factual determinations outlined under Section 404(b)(1) of the CWA used to identify the Least Environmentally Damaging Practicable Alternative (LEDPA).

5.1 Evaluation Criteria used for the Selection of a Preferred Alternative

The build alternatives included in the SR 79 Draft Environmental Document represent the culmination of an extensive corridor and alternative screening process mandated by NEPA and the NEPA/CWA Section 404 Integration Process MOU. The screening of these alternatives is extensively described in documents prepared for Resource Agency concurrence pursuant to the NEPA/CWA Section 404 Integration Process MOU. All build alternatives meet the purpose and need of the Project and overall there is very little differentiation between the build alternatives in terms of adverse effects to the human environment and natural resources. Given the lack of distinction based on adverse effects, the Project Development Team examined the results of the technical studies and analyses to discern those evaluation criteria that identify important distinctions between the build alternatives in order to select the preferred Project alternative.

These criteria include six categories with specific criteria under each. These categories are:

- Consistency with Identified LPA
- Engineering/Design Criteria
- Alternative Preference from Public Comments
- Relocations and Real Property Acquisition
- Cultural Resources
- Biological Resources

Other criteria discussed in the Draft EIR/EIS had no substantial distinctions between alternatives and were therefore not included in the evaluation and selection process of a preferred alternative. The criteria not used include:

- Traffic and Transportation
- Visual Resources
- Noise
- Growth
- Farmlands
- Environmental Justice
- Utilities/Emergency Services
- Pedestrian and Bicycle Facilities
- Hydrology/Floodplain
- Water Quality
- Paleontology
- Hazardous Materials
- Air Quality

The following sections provide a detailed description of each of the distinguishing criteria that were used in the selection of the preferred alternative.

5.1.1 Consistency with Identified Locally Preferred Alternative

This criterion assesses consistency of the Project build alternatives with the LPA for the City of Hemet, the City of San Jacinto, and the San Jacinto Unified School District. Following the circulation of the Draft Environmental Document, the City of Hemet's LPA was Build Alternative 2b. However, the local Tribal Council expressed strong opposition to both Build Alternatives 2a and 2b because of the significant impacts these build alternatives would have on a TCP in the west Hemet Hills. Build Alternative 1b is nearly identical to Build Alternative 2b, with the exception of the roadway segment between the Salt Creek Channel and West Florida Road, through the Hemet Hills. Build Alternative 2b would cross through the middle of the hills north of Stowe Road, whereas Build Alternative 1b would be located along the western edge of the Hemet Hills. In response to the concerns of the tribal council, design modifications have been made to Build Alternative 1b to minimize impacts to the Hemet Hills and avoid the TCP, which resulted in the identification of the preferred alternative: Build Alternative 1br. The City of Hemet included Build Alternative 2b as its LPA in its General Plan; however, the General Plan states:

Cal Trans and RCTC are evaluating several alignment and design options for the roadway as part of the project proposal and EIR/EIS

for the realignment. In the event that an alternative alignment or design option is ultimately selected, the City will need to amend the General Plan to indicate the selected roadway configuration.

Given the need to avoid the TCP, Caltrans and RCTC are currently working with the Hemet City Council on a resolution regarding a change in the LPA from Build Alternative 2b to Build Alternative 1br.

The City of San Jacinto General Plan identifies an LPA that will traverse the community “in a generally north-south direction located to the east of Sanderson from the San Jacinto River to the San Jacinto Reservoir. In the vicinity of the reservoir, the SR 79 curves west and traverses Sanderson, ultimately crossing “...Esplanade Avenue at the southwestern corner of the community. The City will continue to work with the County of Riverside and the RCTC to support this alignment of the SR-79, which is currently one of the alternatives being considered by these agencies.” Build Alternative 1br meets these criteria and is therefore consistent with the LPA for the City of San Jacinto.

The San Jacinto Unified School District expressed opposition to Build Alternatives 1a and 2a but had no preference with regards to Build Alternatives 1b, 1br, and 2b and Design Option 1b1.

5.1.2 Engineering/Design

This criterion compares key engineering elements such as truck-climbing lanes, impacts to the San Jacinto Branch Line, maintaining east-west connections in Winchester, and access to Winchester Road. Although the Project build alternatives would require similar engineering and design elements, Design Options 1b1 and 2b1 are less desirable because they would both require the need for a truck-climbing lane, would impact the San Jacinto Branch Line, and would not maintain an east-west connection to Winchester Road. Build Alternatives 1a and 2a are also not preferred, from an engineering standpoint, because they do not provide any direct access to Winchester Road.

Build Alternatives 1b and 2b are favored, in terms of design and engineering, because both of these alternatives avoid the need for a truck-climbing lane, avoid impacts to the San Jacinto Branch Line, maintain east-west road connections in Winchester, and provide direct access to Winchester Road.

5.1.3 Alternative Preference from Public Comments

This criterion compares the number of public comments received in support of the build alternatives against the number of public comments received in opposition to the build alternatives. Build Alternative 2b and Design Option 2b1 both received 15 comments in support; however, there were also 12 public comments opposed to Build Alternative 2b, while there was no opposition expressed to Design Option 2b1. There were seven public comments in support of Design Option 1b1 and no comments opposed to this build alternative. Build Alternative 1b received three comments in favor and one in opposition. Build Alternative 1a received three comments in favor and three comments in opposition. Build Alternative 2a was the only build alternative that received more comments in opposition than comments in favor, with 10 opposed and six in support.

Overall, public comments expressed the most support for Build Alternatives 1b, Design Options 1b1 and 2b1 and, the most opposition to Build Alternative 2a. In addition, 33 public comments were received in opposition to the Tres Cerritos interchange, resulting in the removal of this interchange from the Project design.

5.1.4 Relocations and Real Property Acquisition

This criterion compares the number of residential and commercial relocations that would be required under each of the build alternatives. Build Alternatives 2b and Design Option 2b1 would require 42 relocations, compared to Build Alternatives 1a and 2a, which would require 56 and 53 total relocations, respectively. Build Alternatives 1b and Design Option 1b1 would each require 51 relocations.

Overall, Build Alternative 2b and Design Option 2b1 would require the fewest number of residential and commercial relocations, and Build Alternatives 1a and 2a would require the greatest number of relocations.

5.1.5 Cultural Resources

This criterion compares important cultural resources among the Project build alternatives, which include impacts to a former Native American grave, impacts to archaeological sites eligible for listing on the National Register of Historic Places (NRHP), a number of archaeological sites impacted, impacts to historic built environments, and consistency with Soboba Band of Luiseno Indians and the Pechanga Tribe's LPA.

All of the Project alternatives will cross a section of the CRA (CA-RIV-6726H) that was found eligible for the NRHP; however, the Project is not expected to have an adverse effect on this property. The Tribes expressed strong opposition to impacts to the west Hemet Hills, which are considered to have sacred significance. Therefore, they were strongly opposed to Build Alternatives 2a and 2b since both require the removal of a substantial portion of the southern peak and would leave two pyramid-shaped cut slopes in its place. Overall, Build Alternatives 1b, 1br, and 1b1 are the culturally preferred alternatives with strong opposition expressed to Build Alternatives 2a, 2b, and Design Option 2b1.

5.1.6 Biological Resources

Within this criterion, there are several subcriteria including impacts to federally listed species, impacts to special-status wildlife (including suitable habitat), wildlife movement corridors, and jurisdictional waters and wetlands. Additional detailed information on federal jurisdictional wetlands is provided in Section 5.2.

Additionally, this includes a comparison of impacts to resources covered under the Western Riverside County MSHCP, as described in Section 7.1.

With the removal of the Tres Cerritos interchange from the Project design, direct impacts to federally listed threatened and endangered plants will be avoided. Build Alternatives 2a, 2b, and Design Option 2b1 could result in potentially significant indirect impacts to San Jacinto Valley crownscale (*Atriplex coronata* var. *notator*), Spreading navarretia (*Navarretia fossalis*), and California Orcutt grass (*Orcuttia californica*), whereas Build Alternatives 1a, 1b, 1br and Design Option 1b1 would avoid indirect impacts to these species. All Project alternatives would result in both direct and indirect impacts to designated critical habitat for spreading navarretia. Direct impacts to critical habitat are 3.0 acres for Build Alternatives 1a, 1b, 1br and Design Option 1b1 and 2.4 acres for Build Alternatives 2a, 2b, and Design Option 2b1.

Vernal pool fairy shrimp (*Branchinecta lynchi*), a federally listed endangered species, was found in the vernal pools north of Stowe Road east of the Hemet Hills. All build alternatives avoid direct impacts to this area, and Build Alternatives 1a and 1b (including Build Alternative 1b1 and 1br) also avoid any potential indirect impacts. Build Alternatives 2a and 2b (including Design Option 2b1) would impact a portion of the upper watershed of these vernal pools, resulting in 1.8 acres of indirect impacts to occupied vernal pool fairy shrimp habitat.

Suitable habitat is present for three additional federal- and or state-listed threatened and endangered wildlife species including Stephen's kangaroo rat (*Dipodomys stephensi*), Quino checkerspot butterfly (*Euphydryas edita*), and California gnatcatcher (*Polioptila californica*). With the design refinements to minimize impacts on the Hemet Hills, Build Alternative 1br would result in the fewest direct and potential impacts to suitable habitat for these species, as shown in Table 5.1-1, Permanent Direct and Indirect Impacts to Suitable Habitat and Special-Status Wildlife Species.

Other special-status wildlife include burrowing owl (*Athene cunicularia*), Los Angeles pocket mouse (*Perognathus longimembris brevinasus*), and Cooper's hawk (*Accipiter cooperii*), all of which are listed California Species of Concern by the CDFW, as well as the white-tailed kite (*Elanus leucurus*), which is a fully-protected species. Impacts to these species are generally similar among all build alternatives (Table 5.1-1, Permanent Direct and Indirect Impacts to Suitable Habitat and Special-Status Wildlife Species).

All build alternatives would result in impacts to local wildlife crossings, as well as to MSHCP Existing Constrained Linkage B (Salt Creek), but would avoid impacts to the MSHCP Existing Constrained Linkage C (San Jacinto River). Impacts to wetlands and waters are generally similar among all build alternatives and are discussed in more detail in Section 5.2.

Table 5.1-1. Permanent Direct and Indirect Impacts to Suitable Habitat and Special-Status Wildlife Species

Resource		Build Alternative 1a	Build Alternative 1b	Build Alternative (Design Option) 1b1	Build Alternative 1b With Refinements (1br)	Build Alternative 2a	Build Alternative 2b	Build Alternative (Design Option) 2b1
Stephen's Kangaroo Rat (FE, ST) Habitat	Direct (acres)	250.4	247.1	247.1	182.3	216.1	212.5	212.5
	Indirect (acres)	330.6	326.8	326.8	308.8	356.8	350.1	350.1
Quino Checkerspot Butterfly (FE) Habitat	Direct (acres)	419.5	432.7	432.2	375.9	371.0	401.9	402.4
	Indirect (acres)	196.0	210.3	210.4	186.8	581.7	562.9	593.0
California Gnatcatcher (FT) Habitat	Direct (acres)	144.7	138.9	138.9	72.7	114.0	108.3	108.3
	Indirect (acres)	27.9	28.6	28.6	38.5	100.7	101.4	101.4
Burrowing Owl (CSC)	Direct	1 pair	1 pair	1 pair	1 pair	2 pairs	2 pairs	2 pairs
	Indirect	5 pairs 1 Ind.	6 pairs	6 pairs	5 pairs	4 pairs 1 Ind.	5 pairs	5 pairs
Los Angeles Pocket Mouse (CSC) Habitat	Direct (acres)	2.6	2.6	2.6	2.6	2.6	2.6	2.6
	Indirect (acres)	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Coopers Hawk (CSC)	Direct	0	0	0	0	0	0	0
	Indirect	0	0	0	0	1 pair	1 pair	1 pair
White Tailed Kite (FP)	Direct	0	0	0	0	0	0	0
	Indirect	2 pairs	1 pair	1 pair	1 pair	3 pairs	2 pairs	2 pairs

Notes:

CSC – Species of Concern (State of California)
 FE – Federal Endangered Species
 FP – Fully Protected Species (State of California)
 FT – Federal Threatened Species
 ST – State Threatened Species

5.1.7 Summary of Preferred Alternative

The above criteria were used by the Project Development Team to select a preferred build alternative. Build Alternatives 1b1 and Design Option 2b1 were eliminated due to engineering considerations, as both would require a truck climbing lane, would result in direct impacts to the San Jacinto Branch Line, and would not maintain east-west road connections with Winchester Road. Build Alternatives 1a and 2a were eliminated from further consideration as these alternatives do not provide direct access to Winchester Road. Initially, Build Alternative 2b was considered for the preferred alternative, as it was consistent with all of the locally preferred alternatives, met the engineering and design criteria, and involved the least amount of residential and commercial relocations. However, impacts to a TCP in the West Hemet Hills would result in a significant cultural resource impact. Therefore, Build Alternative 1b, with design refinements to minimize impacts on the Hemet Hills and to conform to current roadway specifications, was selected as the preferred build alternative. With the design refinements to minimize impacts to the Hemet Hills, Build Alternative 1br also results in fewer impacts to threatened and endangered species habitat than the other Project alternatives.

5.2 Section 404(b)(1) Guidelines

Section 404(b)(1) of the CWA includes the substantive environmental criteria used to evaluate whether a proposed project alternative constitutes the LEDPA that will achieve the basic purpose of the Project. The Project build alternatives meet the basic purpose and need of the Project and are considered practicable. Estimated Project costs range from \$990,810,000 for Design Option 2b1 to \$1,109,535,000 for Build Alternative 2a. The most expensive Project build alternative is approximately 11 percent higher than the least expensive Project build alternative. The following sections evaluate the Project build alternatives in terms of their respective impacts to waters of the United States.

5.2.1 Factual Determinations

Factual determination include an evaluation of the potential short-term and long-term effects of a proposed discharge of dredged or fill material on the physical, chemical, and biological components of the aquatic environment. The information included in the following sections provides the information necessary to make a determination of the LEDPA. For the purpose of this evaluation, short-term impacts are considered to be temporary impacts associated with construction activities including short-term

access routes, temporary structures, minor excavation and other activities associated with utility relocations and other work activities that may occur for relatively short periods of time within an aquatic resource. Once the construction activity is complete, these areas will be restored to pre-construction contours and conditions. Short-term impacts will not result in permanent loss of area or function of aquatic resources. Long-term impacts, in contrast, will result in the permanent loss of aquatic habitat as a result of placement of fill material required for the roadway construction and/or significant hydrologic modification.

5.2.1.1 Potential Impacts on Physical and Chemical Biological Characteristics of Aquatic Ecosystem (Subpart C of the 404(b)(1) Guidelines)

The following sections provide an analysis of the potential short-term and long-term effects of the Project alternatives on the physical and chemical characteristics of the aquatic ecosystem.

Physical Substrate

Physical substrate includes the sediments and soils underlying open water and wetlands, respectively. It includes organic and inorganic solids as well as liquids and gasses that occupy the pore spaces between the solid particles. The Project build alternatives include similar short-term and long-term impacts to the physical substrate of aquatic resources.

Short-term impacts include temporary construction access within the Salt Creek Channel, along the banks of the Hemet Channel, and temporary work activities in an agricultural wetland in the utility relocation area at the northern end of the Project area. Following the completion of construction in these areas, the physical substrate would be restored to preconstruction conditions.

The Project build alternatives include minor permanent impacts associated with bridge pilings located in Salt Creek Channel. The Project build alternatives would also result in permanent impacts to physical substrates of other aquatic areas including vernal pools, seasonal wetlands, agricultural wetlands, and riparian habitats as a result of grading, filling and construction of the roadway. These permanent impacts to physical substrate are the same for all build alternatives, differing only in the total area of impact and not in the types of impacts.

Suspended Particles/Turbidity

Total suspended solid levels in receiving waters can increase when soil erosion is increased by higher flow rates and volume as a result of a project. Increased soil erosion can also result in downstream siltation and a reduction in water quality. High amount of suspended solids in surface water can also prevent sunlight from reaching aquatic plant and benthic (bottom-dwelling) communities and impairing habitat for aquatic organisms, including fish. These effects would be proportionate to the increase in stormwater runoff from impervious (paved) surfaces. Although the effects would depend on ground slope, soil erodibility, rainfall intensity (runoff flow rate and volume), and vegetative ground cover, the Project build alternatives have the potential to contribute to an increase in suspended particles in aquatic areas. Under the build alternatives, the Project will be designed to maintain existing drainage patterns whenever possible; however, localized runoff could concentrate in pipes or ditches and be discharged directly or indirectly into creeks. This change in runoff characteristics and volume could lead to streambank erosion and increased scour in unlined drainage ditches. These impacts would be the same for all Project build alternatives. The result could be an increase in sediment and turbidity in receiving waters. However, energy dissipaters are proposed as part of the Project to protect the beds and banks of receiving waters against scouring and increased turbidity, and therefore impacts from increased suspended sediments would be minimal.

Water Quality

Impervious roadway surfaces can contribute to pollution of water resources through the collection and subsequent wash-off of sediment, oil, grease, lubricants, paint, and other pollutants. Potential water quality impacts are the same for all Project build alternatives and include increased concentrations of any of the following types of pollutants entering surface waters or groundwater: total suspended solids, nutrients (nitrogen/phosphorus), pesticides, metals, pathogens, trash, biochemical oxygen demand, and total dissolved solids.

Chemical spills resulting from traffic accidents are possible and if uncontained, would negatively affect water quality. The crossings and proximity of the Project to the Casa Loma Canal and San Diego Canal could result in runoff or spills entering the canals. Because the canals are protected against flooding in most locations by dikes, the most significant contamination risk to the canals would be where the Project crosses. However, at these crossings, stormwater and other runoff from the Project roadway would be conveyed to pipes, which would direct flow away from the canals. Even so, accidents where the Project crosses the canals could pose a risk of

contamination. Groundwater can also be affected by substantial spills resulting from traffic accidents, particularly large spills that could overwhelm typical treatment best management practices (BMPs).

Water quality modeling determined that the build alternatives may result in potentially higher concentrations of nitrate and total lead. These increased values would still be less than the water quality objectives established in the RWQCB's Basin Plan. Other modeled constituents have a concentration and loading less than the existing condition after implementation of treatment BMPs. These water quality impacts would be the same under all build alternatives.

Circulation, Fluctuation, and Salinity

Water circulation and fluctuation include the physical movements of water in the aquatic ecosystem, including the annual/seasonal fluctuations in water levels. Channel modification, changes in the basin shape, and impacts to floodplains can affect water circulation and fluctuation.

All proposed build alternatives cross the Salt Creek Channel. Because the roadway would be elevated on a structure over the channel, the Project is not expected to have a significant impact on water flow, fluctuation, or circulation. Storm flow to Salt Creek Channel is also distributed from Hemet Channel. The Hemet Channel floodplain would also be minimally impacted by the all of the build alternatives. Impacts would occur within the direct footprint of the Project or would be limited to slight impacts to the floodplain perimeter. Impacts to the Hemet Channel itself would be limited to temporary construction of the overcrossing structure and drainage inputs.

The Project would impact the San Jacinto River floodplain; however, these impacts would be minimal under all build alternatives as bridges and culverts would be constructed to maintain existing flows. Additional Project features constructed in the 100-year floodplain (Utility Relocation Area 2) would not cause impacts because those features are not expected to alter the existing floodplain. Under all of the build alternatives, most of the floodplain area would remain intact, and intermittent water flows to the San Jacinto River would be maintained. Routine measures to minimize impacts and preserve natural and beneficial floodplain values would be included as part of the Project design and build. These measures would comply with USACE standards for not restricting seasonal channel flow capacity.

Salinity gradients occur where freshwater mixes with saltwater from the oceans. None of the Project build alternatives would have any effect on salinity gradients.

5.2.1.2 Potential Impacts on Biological Characteristics of Aquatic Ecosystem (Subpart D of the 404(b)(1) Guidelines)

The following sections included information on the potential impacts on biological characteristics of the aquatic resources that could be impacted by the Project build alternatives.

Threatened and Endangered Species

Three federally listed endangered plants, San Jacinto Valley Crownscale, Spreading Navarretia, and California Orcutt Grass occur with the Project area. None of the build alternatives would result in direct permanent impacts to federally listed plants; however, Build Alternatives 2a, 2b, and Design Option 2b1 have the potential for indirect impacts to these species as a result of the alteration of the upper watershed for the vernal pool complex located near the intersection of Stowe Road and California Road. The preferred Build Alternative 1b with Refinements would be routed around the western side of the Hemet Hills and would avoid any potential indirect impacts to federally listed plants.

The build alternatives would result in direct and indirect impacts to designated critical habitat for spreading navarretia. Direct impacts to critical habitat are similar for all build alternatives. Build Alternatives 1a and 1b (including Design Option 1b1 and Build Alternative 1br) would result in 3.0 acres of direct impacts to critical habitat, whereas Build Alternatives 2a, 2b, and Design Option 2b1 would result in 4.9 acres of direct impacts to critical habitat.

Vernal pool fairy shrimp, a federally listed threatened animal, was found at the vernal pool complex near the intersection of Stowe and California Roads. None of the build alternatives would result in direct impacts to this area; however, Build Alternatives 2a, 2b, and Design Option 2b1 impact the upper part of the watershed for this vernal pool complex and therefore could result in 1.8 acres of indirect impacts on this species. Build Alternatives 1a, 1b, 1br, and Design Option 1b1, would have no indirect impacts on this species.

Suitable habitat is present in the Project area for three federally listed wildlife species: Stephen's kangaroo rat, Quino checkerspot butterfly, and the California gnatcatcher. The build alternatives would result in both direct and indirect habitat for these species (see Table 5.1-1, Permanent Direct and Indirect Impacts to Suitable Habitat and

Special-Status Wildlife Species). With the design refinements to minimize impacts to the Hemet Hills, Build Alternative 1br will result in the fewest direct habitat impacts.

Fish, Crustaceans, Mollusks, and other Aquatic Organisms in the Food Web

Impacts to aquatic organisms in the aquatic food web include any direct and indirect impacts to aquatic resources that results in the reduction of the overall productivity and export capability of the aquatic ecosystem. Most of the water features in the Project area are characterized by intermittent or ephemeral seasonal water and do not provide suitable habitat for fish and mollusks. Possible exceptions include what appears to be a permanent pond (CP004) in the northern part of the Project area that may support perennial water that could provide habitat for warm-water fish species such as crappie and blue gill. Impacts to this feature would be the same under all build alternatives.

Many of the seasonal wetlands in the Project area provide habitat for a variety of small crustaceans and aquatic insects, including seed shrimp (*Ostracods*), copepods, (*Cladocerans*), versatile fairy shrimp (*Branchinecta lindahli*), back swimmers (*Notonectidae*), water boatmen (*Corixidae*) and aquatic beetles (*Coleopterans*). Seasonal wetlands, including vernal pools and agricultural wetlands, provide foraging habitat for migratory birds including waterfowl, shorebirds, and passerines (Silveira 1996; Bogiatto et al. 2011). The Project build alternatives would result in similar types of impacts to aquatic features that provide habitat for aquatic organisms including direct impacts from roadway construction and potential indirect impacts from contaminants increased sedimentation and other changes in water quality.

Other Wildlife

Wildlife associated with aquatic ecosystems includes resident and transient mammals, birds, reptiles and amphibians. Certain types of aquatic areas, such as riparian wetlands, provide nesting and cover sites and other aquatic habitats such as the salt Creek Channel and the San Jacinto River provide important wildlife movement corridors. Both direct and indirect affects to wild life use of aquatic areas are the same under all of the build alternatives. All build alternatives include an elevated crossing over the Salt Creek Channel, and all build alternatives avoid impacts to the San Jacinto River.

5.2.1.3 Potential Impacts on Special Aquatic Sites (Subpart E of the 404(b)(1) Guidelines)

The USEPA identifies six categories of special aquatic sites under Section 404 b.(I). Special Aquatic sites are defined under Section 230.3 40 Code of Federal Regulations (CFR) as:

...geographic areas, large or small, possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values. These areas are generally recognized as significantly influencing or positively contributing to the general overall environmental health or vitality of the entire ecosystem of a region.

The following sections discuss each of the six categories of special aquatic sites.

Sanctuaries and Refuges

Sanctuaries and refuges are special aquatic sites that include those areas that have been designated by state or federal laws or local ordinances to be managed primarily for the preservation and use of fish and wildlife resources. CDFW's San Jacinto Wildlife Area is located north of the San Jacinto River, approximately 0.7 mi north of the northern terminus of the Project. The San Jacinto Wildlife Area includes 9,000 acres of wetlands including ponds and freshwater marshes. All of the Project alternatives terminate on the southern side of the San Jacinto River and therefore would not result in any direct or indirect impacts to this wildlife area.

Wetlands

Wetlands are defined as areas that are "inundated or saturated by surface or ground water at a frequency and duration sufficient to support and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (404b(1) guidelines 230.41). The build alternatives would result in both permanent and temporary impacts to wetlands in the San Jacinto watershed. Impacts to wetland features are generally similar for all build alternatives, with the exception of jurisdictional drainage ditches and constructed ponds, as shown in Table 5.2-1, Summary of Impacts to Jurisdictional Wetlands and Waters of the U.S. Overall, Build Alternatives 1b (including Build Alternatives 1b1 and 1br) have the least amount of direct impacts on jurisdictional wetlands and other waters (Table 5.2-1, Summary of Impacts to Jurisdictional Wetlands and Waters of the U.S.). This build alternative would also have the fewest temporary impacts to the Salt Creek Channel.

Table 5.2-1. Summary of Impacts to Jurisdictional Wetlands and Waters of the U.S.

Wetland Type	Build Alternative 1a	Build Alternative 1b	Build Alternative (Design Option) 1b1	Build Alternative 1b With Refinements (1br)	Build Alternative 2a	Build Alternative 2b	Build Alternative (Design Option) 2b1
Permanent Direct Impacts (acres)							
Vernal Pools	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Seasonal Wetlands	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Salt Creek Channel	0.004	0.004	0.004	0.004	0.004	0.004	0.004
Ag Seasonal Wetlands	9.4	9.4	9.4	9.4	9.4	9.4	9.4
Drainage Ditches	5.5	4.0	4.0	4.0	5.4	5.4	5.4
Riparian Seasonal Wetlands	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Constructed Ponds	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Total Permanent Direct Impacts	20.804	19.304	19.304	19.304	20.704	20.704	20.704
Temporary Direct Impacts (acres)							
Vernal Pools	0	0	0	0	0	0	0
Seasonal Wetlands	0	0	0	0	0	0	0
Salt Creek Channel	2.9	2.8	2.8	2.8	2.9	3.2	3.2
Hemet Channel	0.0	0.7	0.7	0.7	1.9	1.3	1.3
Drainage Ditches	0	0	0	0	0	0	0
Riparian Seasonal Wetlands	0	0	0	0	0	0	0
Constructed Ponds	0	0	0	0	0	0	0
Total Temporary Direct Impacts	2.9	3.5	3.5	3.5	4.8	4.5	4.5
Note: Wetland impacts are based on the wetland area within the direct impact area of Build Alternative 1br, with the exception of vernal pools, for which the entire vernal pool area was included.							

Mudflats, Vegetated Shallows, Coral Reefs, and Riffle and Pool Complexes

Other special aquatic sites included in Subpart F of the 404(b)(1) guidelines include mudflats, vegetated shallows, coral reefs, and pool riffle complexes.

Mudflats are broad flat areas along the sea coast and along coastal rivers, and can sometimes occur at the edges of inland lakes, ponds and rivers. Mudflats are characterized by organic material and particles smaller than sand that lack rooted plants but may be covered with algae. No mudflats were identified in the Project area.

Vegetated shallows are permanently inundated areas that supported rooted, submerged aquatic vegetation in estuarine marine areas as well as inland lakes and rivers. No vegetated shallows were identified in the Project area.

Coral reefs comprise the skeletal deposits of calcareous or siliceous materials in marine environments. There are no coral reefs in the Project area.

Riffle and pool complexes are sections of streams that are characterized by the rapid movement of water over a coarse substrate that results in turbulent, rough surface flow and high oxygen levels in the water intermixed with areas of slower moving water with a smooth surface and finer substrate. These areas provide high habitat values to fish and wildlife. There are no riffle and pool complexes in the Project area.

5.2.1.4 Potential Impacts on Human Use Characteristics (Subpart F of the 404(b)(1) Guidelines)

Potential effects on human uses are an important consideration in the determinations and findings of the LEDPA. The following sections provide a summary of human uses and potential effects associated with the Project.

Municipal/Private Water Supply

Sources of municipal water include imported water (through the MWD), locally produced groundwater, and recycled water from the five wastewater reclamation facilities in the region. Groundwater in the Hemet and San Jacinto region is a critical supply source for municipal and agricultural needs. Additional water is supplied to the region by the EMWD through numerous member agencies. Approximately 57 percent of the potable water distributed by the EMWD is from MWD, which provides water from both Colorado River and the State Water Project. Some of this water is used for groundwater recharge and seasonal storage.

A water quality model was developed to assess the water quality impacts for the Project. The results of the model indicate that the post-construction condition would result in lower pollutant loading and concentration total suspended solids, total phosphorus, total copper, and total zinc after implementation of treatment BMPs. The model indicated that the pollutant loading and concentration of nitrate and total lead are expected to increase slightly following the Project construction, even after the implementation of treatment BMPs. These impacts would be the same for all build alternatives but are described in more detail below.

The nitrate concentration was predicted to be 1.03 milligrams per liter (mg/L) and the loading to be 843 to 915 pounds (lbs) per year, depending on the build alternative. Of this, 0.24 mg/L of nitrate would be in the form of nitrogen (N). The predicted nitrate value of 1.03 mg/L is significantly below the established as the primary drinking water standard for nitrate in the Santa Ana Region Basin Plan (Basin Plan), which is 45 mg/L. The Lake Elsinore and Canyon Lake Nutrient total maximum daily load has established a numeric target of 0.75 mg/L for total N. The nitrate concentration predicted by the model equates to 0.24 mg/L of nitrate as nitrogen, which is less than the total maximum daily load numeric target, but there may be other forms of nitrogen not accounted for in the modeling.

The model also predicts a higher pollutant loading and concentration of total lead for post-construction conditions. The total lead concentration was predicted to be 11 micrograms per liter (µg/L) and the loading to be 9 to 10 lbs per year, depending on the build alternative. The increase is slight, with a concentration increase of 0.007 mg/L and a total pollutant loading increase of 6 lbs. The predicted level of lead predicted to be 11 µg/L is still below the site-specific objective for dissolved lead in the Basin Plan.

Toxicity testing performed as part of the Santa Ana River Use Attainability Analysis demonstrated that 28 µg/L of dissolved lead is safe and nontoxic in Santa Ana River water. The Basin Plan further indicates that there is also evidence that levels as much as 100 percent higher than those shown do not result in chronic toxicity. Thus, it is reasonable to conclude that the increase in total lead concentration and loading from the Project would not have a significant water quality impact.

For groundwater, the Basin Plan has established a water quality objective for total lead of 0.05 mg/L. The total lead concentration predicted in the model is much less than the water quality objective. Although the model predicts that the Project would

increase the concentration of total lead, the increase would not cause a significant water quality impact. The modeled concentration of total lead is less than established objectives for both surface water and groundwater. In addition, the Project would comprise a small fraction (0.2 percent) of the total drainage area of the San Jacinto River watershed that drains to Canyon Lake. Thus, the increase in lead concentration and loading would not have a significant water quality impact to either surface water or groundwater resources.

Recreational and Commercial Fisheries

Recreational and commercial fisheries consist of fish, crustaceans, shellfish and other aquatic organisms that are caught or harvested for sport and/or consumption by people. There are a number of artificial lakes and reservoirs in the regional vicinity of the Project that are stocked with trout, catfish, and bass for recreational fishing. Diamond Valley Lake is a 4,500-acre reservoir located less than a mile east of the southern extent of the Project area that supports an active recreational fishery, including large-mouth bass, rainbow trout, crappie, bluegill, and catfish. Reflection Lake is a private campground and resort that includes a small fishing lake supporting trout and catfish fishing. This area is located just west of the Project area between the San Diego Canal and Warren Road south of Cottonwood Avenue. Other regional recreational fishing areas include Skinner Reservoir located 6 miles south of the Project area and Lake Perris located 9 miles to the west. None of the proposed Project alternatives will impact any of these recreational areas and fisheries.

Water-Related Recreation

Water-related recreation includes activities such as swimming, wading, waterskiing, skin and scuba diving, surfing, whitewater activities, fishing, and use of natural hot springs. The Salt Creek Channel and the Hemet Channel are aquatic features that have been constructed and are maintained to convey stormwater runoff and prevent flooding and provide little to no value in terms of recreation. Most of the other aquatic features are shallow, seasonally inundated wetlands that provide limited to no opportunities for water-related recreation. Overall, impacts to water-related recreation as a result of the Project would be minimal and would be the same under all build alternatives.

Aesthetics

Aesthetics associated with aquatic ecosystems consist of the perception of beauty by one or a combination of senses of sight, hearing, touch and smell. Aesthetics of aquatic ecosystems apply to the quality of life enjoyed by the general public and

property owners. Aesthetic impacts associated specifically with aquatic resources include native wildflower displays associated with vernal pools and trees associated with constructed ponds and aquatic areas supporting riparian vegetation. The aesthetic value of these areas depends in part on the landscape setting in which the aquatic features occur, the type of vegetation present, and the public viewing points.

All build alternatives will result in aesthetic impacts associated with three vernal pools located north of Esplanade Avenue and west of Warren Road. The largest of these vernal pools is located in a grazed horse pasture and is generally highly disturbed. Two smaller vernal pools are located in a grassland and are not easily seen from publicly accessible areas. These three vernal pools have limited native plant diversity and lack the more showy vernal pool annual plants; therefore, the aesthetic values of these vernal pools is considered to be low. All build alternatives would result in direct impacts to these pools; therefore, the aesthetic impacts would be similar for all build alternatives.

The Salt Creek Channel is a constructed stormwater conveyance channel that provides only minimal aesthetic value and will not be significantly altered by the construction of a bridge crossing over the channel. All build alternatives require a bridge crossing over the Salt Creek Channel; therefore, the aesthetic impacts would be similar for all build alternatives.

Many of the wetlands identified in the study area are associated with constructed features such as former stock ponds, abandoned excavation sites, or drainage features that are subject to seasonal inundation and support hydrophytic plant species. A few of these areas support riparian trees that provide some aesthetic value, but most of these sites are located on highly disturbed parcels which provide only minimal aesthetic value. Agricultural seasonal wetlands are areas in actively disked or cultivated fields that do not provide aesthetic value. Other water conveyance features including the Hemet Channel and excavated drainage ditches were not considered to provide important aesthetic values.

Parks and Preserves

Parks and preserves include areas that have been designated under federal or state laws or local ordinances to be managed for their aesthetic, educational, historical, recreation, scientific, and/or conservation values. Two wetland preserves are located in the vicinity of the proposed Project: The MWD's Upper Salt Creek Reserve, which includes alkali grassland and vernal pool complexes west of the San Diego Canal

between Stetson Road and SR 74/Florida Avenue; and the Stoney Mountain Preserve, which is located on the east side of Warren Road and south of Esplanade Avenue. Both of these preserves are outside of the direct impact areas of all build alternatives but were included in the analysis for potential indirect effects. The Upper Salt Creek preserve is located in the vicinity of all build alternatives, but no direct or indirect impacts would occur to the preserve as a result of the Project. The Project ROW is located immediately north of the Stoney Mountain Preserve along Esplanade Avenue. In this area, the hydrology flows from the south to the north. The Project would be located downslope of the vernal pool complex and therefore no indirect impacts would occur to these wetlands.

5.2.1.5 Avoidance, Minimization, and Mitigation Measures

The following sections provide information on the avoidance and minimization measures that were included in the selection of the final build alternatives, as well as a summary of minimization and mitigation measures that have been included in the environmental documents pertaining to aquatic resources.

Appropriate and Practicable Steps that have been Taken to Minimize Potential Adverse Impacts to Aquatic Ecosystems

As part of the Project development process, the state and federal resource agencies were consulted regarding the proposed Project. Resource agency meetings were initiated during the preparation and review of the Project's Purpose and Need as specified under the NEPA/CWA Section 404 Integration Process MOU. This approach was adopted for the Project because construction had the potential to permanently impact more than 5 acres of jurisdictional wetlands. During this early consultation, the resource agencies identified significant biological resources in the San Jacinto Valley, primarily in an alkali vernal pool/playa complex in Hemet, were deemed so biologically sensitive (supporting threatened and endangered species, some endemic) that a more comprehensive review of the proposed Project build alternatives was requested to be undertaken. This resulted in a more comprehensive approach to reviewing all possible alignment alternatives in the San Jacinto Valley. Detailed information on this analysis is provided in the *Final Project Criteria and Alternatives Selection for Preliminary Agreement* report (June 2004).

To the extent possible, the final build alternatives and design options have been selected to avoid permanent, direct, and indirect impacts to riparian/riverine and vernal pool habitats. Other build alternatives that would have routed a portion of the roadway parallel to Warren Road on the east side of the San Diego Canal and west of

the Hemet-Ryan Airport were eliminated from further analysis because of the large number of potential impacts to the wetlands and sensitive habitat in this area. However, completely avoiding all wetland impacts was not practicable. A number of minimization measures have been proposed in the Draft EIS designed to minimize impacts on aquatic resources. Proposed mitigation measures, as presented in the Draft EIR/EIS, include the following:

- **HYDRA-1 Construct Drainage and Flood Control Facilities.** Construct Drainage and Flood Control Facilities in accordance with Caltrans and Federal Emergency Management Administration guidelines to convey the onsite and offsite flows along and through SR 79.
- **WQ-1 Construction BMPs in Compliance with Project Planning and Design Guide (PPDG), Stormwater Management Plan (SWMP), Stormwater Pollution Prevention Plan, and Standard Special Provisions.** The contractor will use a combination of BMPs approved by Caltrans that comply with the PPDG, SWMP, the Project-specific Stormwater Pollution Prevention Plan, and any applicable Caltrans Standard Special Provisions to minimize impacts associated with runoff and polluted water.
- **WQ-2 Revegetation.** Where vegetation is grubbed, cleared, or severely damaged or cut back, replacement vegetation will be provided, when feasible, in accordance with applicable standards and guidelines.
- **WQ-3 Disturbed Slope Stabilization.** Following construction, disturbed areas will be stabilized through permanent revegetation or other means, per the guidelines of the PPDG. The Department will perform a detailed analysis of downstream channel stability during the design phase of the Project.
- **WQ-4 Treatment BMPs.** The Project will incorporate treatment BMPs that have been approved for statewide use per the guidelines in the PPDG. These BMPs have been approved for statewide use and are to be considered for significant reconstruction projects in urban Municipal Separate Storm Sewer System (MS4) areas. The PPDG provides design guidelines for the approved treatment BMPs. The treatment BMPs will clean runoff water and minimize pollutants from construction.
- **WQ-5 Dewatering Permit.** The Project may require localized dewatering in areas where groundwater is shallow. If dewatering is necessary, the Project will comply with the general *de minimus* permit that applies to general waste

discharge requirements for discharges to surface waters in the Santa Ana region (National Pollutant Discharge Elimination System [NPDES] CAG 998001).

- **BIO-5 Equipment Storage, Fueling, and Staging Areas.** Equipment storage, fueling, and staging areas will be situated in non-sensitive upland habitats that offer minimal risk of direct discharge into riparian areas or other sensitive habitats.
- **BIO-6 Training about Sensitive Biological Resources.** A contractor-supplied biologist who is familiar with the sensitive plant and animal species in the Project area will provide training about these sensitive biological resources to construction personnel.
- **BIO-9 Designated Areas for Equipment Maintenance and Staging.** Equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances will occur only in designated areas within the grading limits of the Project. These designated areas will be clearly marked and located in such a manner as to contain runoff.
- **BIO-11 Bridge over Salt Creek Channel.** Build alternatives and design options will include the construction of a bridge over MSHCP Existing Constrained Linkage B, which is also known as the Salt Creek Channel.
- **BIO-12 Avoidance of San Jacinto River.** Build alternatives and design options will avoid Proposed Core 3, which will be north of the Project. Build alternatives and design options will avoid the San Jacinto River and lands north of that area.
- **BIO-29 Onsite and Offsite Drainage Facilities in the Project ROW.** Onsite and offsite drainage facilities will be constructed within the Project ROW to ensure that the quantity and quality of runoff discharged into the MSHCP Conservation Area will not affect existing conditions.
- **BIO-30 Maintenance of Constructed Stormwater Systems.** Regular maintenance of constructed stormwater systems will occur to ensure effective operation of these systems.
- **BIO-31 No Erodible Materials Deposited in Watercourses.** No erodible materials will be deposited into watercourses. Brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks.

- **BIO-32 Ongoing Monitoring and Reporting.** Ongoing monitoring and reporting will occur for the duration of the construction activity to ensure implementation of BMPs.
- **BIO-34 Mitigation of Impacts to Water Features.** Mitigation of impacts to jurisdictional water features will occur at a ratio of at least 1 to 1. Appropriate mitigation for unavoidable impacts to wetlands and other waters will be determined through the permitting process. The mitigation will lessen the impact to a level below significance and will ensure no net loss of wetlands. Mitigation may include the following two measures:
 - **BIO-34a. Drainage Ditches.** For impacts to roadside ditches, onsite mitigation will consist of replacement through the reconstruction of these features along the new roadway alignment.
 - **BIO-34b. Seasonal Wetlands.** For unavoidable permanent impacts to seasonal wetlands, including vernal pools and riparian wetlands, offsite mitigation will consist of wetland/riparian creation, enhancement, or restoration within the San Jacinto watershed and/or the purchase of wetland creation credits at a USACE-approved wetland mitigation bank.
- **BIO-42 Maintenance of Hydrology to Existing Vernal Pool/Alkali Playa Habitat.** The Project will maintain hydrology to existing vernal pool/alkali playa habitat to provide for the conservation of the planning species listed above. This will be accomplished by maintaining natural hydrologic processes or designing and implementing an engineered solution that has the same effect.

5.2.1.6 Conclusion: Least Environmentally Damaging Practicable Alternative

Impacts to the physical, chemical and biological resources associated with federal jurisdictional wetlands and waters in the Project area are similar for all build alternatives. The most notable differences are associated with direct and indirect impacts to federally listed species and habitats and minor differences in wetland areas present in the Project area of each build alternative. Based on the factual determinations, Build Alternative 1b, with design refinements to minimize impacts to the Hemet Hills, would be the least environmentally damaging alternative.

Chapter 6 Long-Term Operational Impact (Operation and Maintenance Plan)

Long-term operation and maintenance impacts are associated with all post-construction activities including routine vehicular traffic, accidents, spills and routine roadway maintenance.

Impervious roadway surfaces can contribute to pollution of water resources through the collection and subsequent wash-off of sediment, oil, grease, lubricants, paint, and other pollutants. Potential water quality impacts include increased concentrations of any of the following types of pollutants entering surface waters or groundwater: total suspended solids, nutrients (nitrogen/phosphorus), pesticides, metals, pathogens, trash, biochemical oxygen demand, and total dissolved solids.

Chemical spills resulting from traffic accidents are possible and if uncontained would negatively affect water quality. The crossings and proximity of the Project to the Casa Loma Canal and San Diego Canal could result in runoff or spills entering the canals. Because the canals are protected against flooding in most locations by dikes, the most significant contamination risk to the canals would be where the Project crosses. However, at these crossings, stormwater and other runoff from the Project roadway would be conveyed to pipes, which would direct flow away from the canals. Even so, accidents where the Project crosses the canals could pose a risk of contamination. Groundwater can also be affected by substantial spills resulting from traffic accidents, particularly large spills that could overwhelm typical treatment BMPs.

Common routine maintenance activities include:

- Roadway patching and repaving
- Pavement marking
- Street cleaning and litter collection
- Roadside blading
- Vegetation management (mowing, chemical spraying, planting, seeding, and fertilizing)
- Cleaning, painting, and repair of roadside structures including curbs, guardrails, drains and signs

The Caltrans Maintenance Manual provides direction, guidance, policies and procedures for all maintenance activities performed by Maintenance personnel. These procedures ensure that maintenance activities are conducted in a manner that prevents or controls the pollutants discharged to surface waters. “Pollutants of concern” addressed in Caltrans’ guidance documents and plans include a broad range of materials that could result in adverse effects if discharged to receiving waters.

- Petroleum products (e.g., gasoline, diesel fuel, motor oil and other lubricants) are common pollutants deposited on the highways and ROWs. Some fuels and lubricants contain additives, which may themselves be toxic to humans and aquatic life.
- Sediment is considered a pollutant when it significantly exceeds natural concentrations. Sometimes other potential pollutants (e.g., lead) may become attached to sediments and are transported with the sediments to receiving waters, increasing the potential for water quality impacts.
- Litter in stormwater is defined as manufactured objects and includes items such as paper, aluminum cans, Styrofoam cups, and other items commonly discarded, which can be transported by wind and stormwater into the storm drainage system. Litter in surface waters can inhibit the growth of aquatic vegetation, harm aquatic organisms by ingestion or entanglement, convey other pollutants, such as toxic substances, and cause aesthetic problems on shorelines. In addition to impacting water quality, these items may obstruct the stormwater drainage system.
- Metals found in highway stormwater runoff are considered pollutants because above a certain threshold even low concentrations of these materials may harm aquatic life. These metals come from various sources and activities, including fuel combustion, brake pad wear (copper), tire wear (cadmium and zinc), metal corrosion, pressure-treated wood, and creosote posts used for guard rails (arsenic), paints, herbicides, and other materials.
- The pH of a water sample is a measure of its acidity or alkalinity. Water that is acidic or alkaline potentially causes harm to aquatic organisms or consumers of the water, and may even result in damage to equipment and materials. Some Caltrans’ maintenance activities that may change the pH of runoff include the storage of cracked batteries resulting in leaking battery acid, tube and tunnel washing, and management of concrete wastes.
- A nutrient is any substance assimilated by living things that promote growth. The term is generally applied to nitrogen and phosphorus in wastewater, but is also

applied to other essential trace elements. Excessive nutrients, such as phosphorus and nitrogen, to receiving waters can overstimulate the growth of aquatic plants causing abnormal algal blooms which contribute to low dissolved oxygen levels and can result in fish kills. Nutrients generally have more adverse effects in water bodies with slow flushing rates, such as slow-moving streams and lakes. Also, nutrients attached to suspended solids in stormwater runoff can cause problems where they settle out downstream. Some of the possible sources of nitrogen and phosphorous from Caltrans' maintenance activities and facilities include storage of fertilizers, decaying plant materials from tree trimming, vegetation management surfactants and emulsifiers and natural sources such as the mineralized organic matter in soils.

- Pathogenic microorganisms, including viruses, bacteria, protozoa, and helminth worms, are of concern in stormwater runoff. The direct measurement of specific pathogens in water is extremely difficult. For that reason, the coliform group of organisms is commonly used as an indicator of the potential presence of pathogens of fecal origin. Sources of total and fecal coliforms in stormwater runoff are ubiquitous (e.g., soil microorganisms, wild and domestic animal droppings, etc.). Human sources could include illicit sewer connections, seepage from septic tanks and spillage from portable toilets.
- A pesticide is a chemical agent designed to control pest organisms. The most common forms of pesticides are organic chemicals designed to target insects (insecticides) or vascular plants (herbicides). Pesticides have been repeatedly detected in surface waters and precipitation in the United States. Water is one of the primary media in which pesticides are transported from targeted applications to other parts of the environment. As the use of pesticides has increased, concerns about the potential adverse effects of pesticides on the environment and human health have also increased. Pesticides and herbicides are used in Caltrans' chemical weed control and integrated pest management activities.

Other Pollutants

Other pollutants originating from Caltrans' maintenance facilities and activities include asphalt, detergents, and epoxy resins. A common product used extensively in Caltrans' maintenance activities is asphalt (especially cold mix), which, while not a pollutant under normal conditions of use, could potentially contribute pollutants to surface waters if mishandled or disposed of improperly. Synthetic detergents and their additives also contain a variety of chemicals that are potentially harmful in the environment. Some of these additives, such as bleaches, dyes, fragrances, and

enzymes, are toxic to aquatic life. Detergents are commonly used in cleaning and washing activities as part of routine maintenance of vehicles and equipment. Some bonding, adhesive materials, and protective coatings contain epoxy resins. Caltrans' maintenance activities that use epoxy resins include repairs of cracks, joints, bridges, barriers, and irrigation lines. Some of the constituents of epoxy products may be toxic to aquatic life, and some are potentially carcinogenic (cancer-causing) to humans.

Caltrans has established BMP categories in the Statewide SWMP that specifically address maintenance, design pollution prevention, construction, and treatment. These measures are in place to reduce and minimize long-term operation and maintenance impacts activities associated with routine vehicular traffic, accidents, spills, and roadway maintenance.

Chapter 7 Compliance with Other Laws

7.1 Section 7 Consultation – Endangered Species Act

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 U.S.C. 1531, et seq. See also 50 CFR Part 402. This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the FHWA, are required to consult with the USFWS and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service to ensure that they are not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take statement, a Letter of Concurrence and/or documentation of a no effect finding. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

Permanent impacts to threatened and endangered species will be handled through a joint MSHCP Consistency Determination/Biological Opinion for the proposed Project upon selection of a preferred alternative. The Project falls within the boundary of the Western Riverside County MSHCP, and therefore, the USFWS will review the Project impacts and proposed avoidance, minimization, and mitigation measures to verify that the Project meets the criteria in the MSHCP. The following excerpt was taken from Section 14.9 of the Implementing Agreement for the MSHCP and explains Section 7 consultations in relation to the MSHCP:

14.9 Section 7 Consultations. *The USFWS will evaluate the direct, indirect, and cumulative effects of the Covered Activities in its internal FESA biological opinion issued in connection with the MSHCP and issuance of the Section 10(a) Permit. As a result, and to the maximum extent allowable, in any consultation under Section 7 of FESA subsequent to the Effective Date involving the Permittee(s) or entity with Third Party Take Authorization with regard to Covered Species Adequately Conserved and Covered Activities, the USFWS shall ensure that the FESA biological opinion issued in connection with the*

proposed project that is the subject of the consultation is consistent with the internal FESA biological opinion. Such project must be consistent with the terms and conditions of the MSHCP and this Agreement.

Any reasonable and prudent measures included under the terms and conditions of a FESA biological opinion issued subsequent to the Effective Date with regard to the Covered Species Adequately Conserved and Covered Activities shall, to the maximum extent appropriate, be consistent with the implementation measures of the MSHCP and this Agreement. The USFWS shall not impose measures in excess of those that have been or will be required by the Permittee(s) or entity with Third Party Take Authorization pursuant to the MSHCP and this Agreement. The USFWS shall process subsequent FESA consultations for Covered Activities in accordance with the process and time periods set forth in 50 Code of Federal Regulations, section 402.14. The Parties agree that this section does not create an independent cause of action.

7.2 Section 106 Consultation – National Historic Preservation Act

The Project will require federal approvals and permits and will affect historic properties (i.e., sites, a structure, district(s) and/or cultural landscape included in or eligible for inclusion in the NRHP) and is therefore considered an undertaking per 36 CFR 800.16(y) subject to compliance with Section 106 of the National Historic Preservation Act of 1966, as amended; the 2014 Programmatic Agreement among the FHWA, the Advisory Council on Historic Preservation (the Council), the California State Historic Preservation Officer, and Caltrans; the Council's implementing regulations at 36 CFR 800.4(b); and similar requirements under the CEQA. The undertaking's Area of Potential Effects (APE) has been inventoried for to identify historic properties within the APE.

Section 106 compliance was initiated for the undertaking in 2006, and the results of historic property identification and evaluation are documented in the Final Historic Property Survey Report (HPSR) (Goldberg and Mirro 2010) and First Supplemental HPSR (Eddy 2014). Technical studies appended to the HPSR include the APE map book, Historical Resources Evaluation Report, Archaeological Survey Report, and

Extended Phase I Proposal and Report. Technical studies included in the First Supplemental HPSR include a Supplemental Archaeological Survey Report, Archaeological Evaluation Proposal, and the Archaeological Evaluation Report.

Caltrans has determined that six historic properties eligible or presumed eligible for inclusion in the NRHP exist within the Project APE. The applicable criteria of adverse effect stipulated in 36 CFR 800.5(a)(2)(i, iv, and v) were applied to the six historic properties.

Project effect assessments have been provided for each historic property and were considered for each of the five build alternatives (1a, 1b, 1br, 2a, and 2b) and two design options (1b1 and 2b1) proposed for the undertaking and are discussed in Table 7.1-1, Conditions Proposed by Build Alternative and Design Option. Past, current, and foreseeable future effects were taken into consideration and the undertaking's potential to contribute to cumulative adverse effects on these properties was considered.

Caltrans proposes that implementation of the undertaking and the five build alternatives and design options will have No Adverse Effect on the CRA or the provisional archaeological district (33-14370); No Adverse Effect with Standard Conditions on CA-RIV-6907/H; and an Adverse Effect on CA-RIV-5786 (indirect), 'anó pótma (direct and indirect), and the undefined archaeological district or cultural landscape (direct and indirect).

Three nonstandard conditions (Conditions 1 through 3) are proposed to avoid or minimize direct adverse effects to historic properties and or contributing features of those properties. A fourth nonstandard condition (Condition 4) was proposed to minimize adverse effects to potential buried historic properties with no surface expression that could be impacted during Project construction.

Caltrans proposes that a finding of adverse effect is appropriate for this undertaking and is consulting to resolve adverse effects pursuant to Section 106 of the Programmatic Agreement Stipulation XI, 36 CFR(a) and 800.6(b)(1). If all parties agree to a resolution, Caltrans shall execute a Memorandum of Agreement pursuant to CFR 800.6(c).

Table 7.1-1. Conditions Proposed by Build Alternative and Design Option

Build Alternative/ Design Option	Condition	Property	Contributing Feature	Avoid/Minimize
1a	#1	CA-RIV-5786	-	Avoids Direct and Cumulative Adverse Effects
		Undefined district/landscape	CA-RIV-5461 CA-RIV-5462 CA-RIV-5786 CA-RIV-5829/H CA-RIV-6907/H CA-RIV-7888 CA-RIV-7891 CA-RIV-7893 CA-RIV-7894/H CA-RIV-8140 CA-RIV-8141 CA-RIV-8142 CA-RIV-8143 CA-RIV-8144 CA-RIV-8146 CA-RIV-8147 CA-RIV-8148 CA-RIV-8156/H CA-RIV-8160 CA-RIV-9135	Avoids Direct Adverse Effects Minimizes Cumulative Direct Adverse Effects
	#2	Undefined district/landscape	CA-RIV-8169	Minimizes Direct Adverse Effects
	#3	TCP ; 'ano pótna	Largest Hill in West Hemet Hills	Minimizes Direct and Cumulative Adverse Effects
		Undefined district/landscape	'ano pótna	Minimizes Direct Adverse Effects
	#4	Potential buried sites	-	Minimizes Direct Adverse Effects
1b and 1b1	#1	CA-RIV-5786	-	Avoids Direct and Cumulative Adverse Effects
	#1	Undefined district/landscape	CA-RIV-5461 CA-RIV-5462 CA-RIV-5786 CA-RIV-5790 CA-RIV-5791 CA-RIV-5829/H CA-RIV-6907/H CA-RIV-7888 CA-RIV-7891 CA-RIV-7893 CA-RIV-7894/H CA-RIV-7907 CA-RIV-7908 CA-RIV-8140 CA-RIV-8143 CA-RIV-8144 CA-RIV-8146 CA-RIV-8147 CA-RIV-8148 CA-RIV-8156/H CA-RIV-9135	Avoids Direct Adverse Effects Minimizes Cumulative Direct Adverse Effects
	#2	Undefined district/landscape	CA-RIV-8141 CA-RIV-8142 CA-RIV-8169	Minimizes Direct Adverse Effects
	#3	TCP ; 'ano pótna	Largest Hill in West Hemet Hills	Minimizes Direct and Cumulative Adverse Effects
		Undefined district/landscape	'ano pótna	Minimizes Direct Adverse Effects
	#4	Potential buried sites	-	Minimizes Direct Adverse Effects

Table 7.1-1. Conditions Proposed by Build Alternative and Design Option

Build Alternative/ Design Option	Condition	Property	Contributing Feature	Avoid/Minimize
1br	#1	CA-RIV-5786	-	Avoids Direct and Cumulative Adverse Effects
	#1	Undefined district/landscape	CA-RIV-5461 CA-RIV-5462 CA-RIV-5786 CA-RIV-5790 CA-RIV-5791 CA-RIV-5829/H CA-RIV-6907/H CA-RIV-7887 CA-RIV-7888 CA-RIV-7891 CA-RIV-7893 CA-RIV-7894/H CA-RIV-7907 CA-RIV-7908 CA-RIV-8140 CA-RIV-8143 CA-RIV-8144 CA-RIV-8146 CA-RIV-8147 CA-RIV-8148 CA-RIV-8156/H CA-RIV-8160 CA-RIV-8169 CA-RIV-9135	Avoids Direct Adverse Effects Minimizes Cumulative Direct Adverse Effects
	#2	Undefined district/landscape	CA-RIV-8141 CA-RIV-8142	Minimizes Direct Adverse Effects
	#3	TCP ;'ano pótma	Largest Hill in West Hemet Hills	Minimizes Direct and Cumulative Adverse Effects
		Undefined district/landscape	'ano pótma	Minimizes Direct Adverse Effects
	#4	Potential buried sites	-	Minimizes Direct Adverse Effects
2a	#1	CA-RIV-5786	-	Avoids Direct and Cumulative Adverse Effects
	#1	Undefined district/landscape	CA-RIV-5461 CA-RIV-5462 CA-RIV-5786 CA-RIV-5829/H CA-RIV-6907/H CA-RIV-7885 CA-RIV-7887 CA-RIV-7891 CA-RIV-7893 CA-RIV-8140 CA-RIV-8141 CA-RIV-8142 CA-RIV-8143 CA-RIV-8144 CA-RIV-8146 CA-RIV-8147 CA-RIV-8148 CA-RIV-8156/H CA-RIV-8160 CA-RIV-9135	Avoids Direct Adverse Effects Minimizes Cumulative Direct Adverse Effects

Table 7.1-1. Conditions Proposed by Build Alternative and Design Option

Build Alternative/ Design Option	Condition	Property	Contributing Feature	Avoid/Minimize
2a	#2	Undefined district/landscape	CA-RIV-7888 CA-RIV-7908 CA-RIV-8169	Minimizes Direct Adverse Effects
	#3	TCP ;'ano pótma	Largest Hill in West Hemet Hills	Minimizes Direct and Cumulative Adverse Effects
		Undefined district/landscape	'ano pótma	Minimizes Direct Adverse Effects
	#4	Potential buried sites	-	Minimizes Direct Adverse Effects
2b and 2b1	#1	CA-RIV-5786	-	Avoids Direct and Cumulative Adverse Effects
	#1	Undefined district/landscape	CA-RIV-5461 CA-RIV-5462 CA-RIV-5786 CA-RIV-5790 CA-RIV-5791 CA-Riv-5829/H CA-RIV-6907/H CA-RIV-7885 CA-RIV-7887 CA-RIV-7891 CA-RIV-7893 CA-RIV-8143 CA-RIV-8144 CA-RIV-8146 CA-RIV-8147 CA-RIV-8148 CA-RIV-8156/H CA-RIV-9135	Avoids Direct Adverse Effects Minimizes Cumulative Direct Adverse Effects
	#2	Undefined district/landscape	CA-RIV-7888 CA-RIV-8141 CA-RIV-8142 CA-RIV-8169	Minimizes Direct Adverse Effects
	#3	TCP ;'ano pótma	Largest Hill in West Hemet Hills	Minimizes Direct and Cumulative Adverse Effects
		Undefined district/landscape	'ano pótma	Minimizes Direct Adverse Effects
	#4	Potential buried sites	-	Minimizes Direct Adverse Effects

7.3 Section 4(f) – USDOT Act

Section 4(f) of the USDOT Act of 1966, codified in federal law at 49 U.S.C. 303, declares that “it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.”

Section 4(f) specifies that the Secretary [of Transportation] may approve a transportation program or project...requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance

(as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:

- There is no prudent and feasible alternative to using that land.
- The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

Section 4(f) further requires consultation with the Department of the Interior and, as appropriate, the involved offices of the Department of Agriculture and the Department of Housing and Urban Development in developing transportation projects and programs that use lands protected by Section 4(f).

Historic properties may also be covered under Section 4(f) of the USDOT Act (49 U.S.C. 303), which regulates the “use” of land from historic properties. Under Section 4(f), actual use is the most common application of Section 4(f). As the term implies, the action involves the actual use of Section 4(f) lands by permanent incorporation of such lands into a transportation facility. Historic sites on or eligible for the NRHP and archaeological sites on or eligible for the NRHP and that warrant preservation in place as determined by Caltrans and official(s) with jurisdiction would classify as potential Section 4(f) resources. For historic properties, the official with jurisdiction would be the California State Historic Preservation Officer. The identification of the following six historic properties within the Project study area under Section 4(f) include:

- Provisional archaeological district (P-33-14370)
- Location of a previously removed prehistoric burial (CA-RIV-5786 / P-33-6884)
- TCP containing ‘Anó Pótma
- Undefined archaeological district or cultural landscape
- Mixed-component site (CA-RIV-6907/H) – beyond the limits/non Section 4(f)
- CRA (CA-RIV-6726H) – *de minimus*

Caltrans proposes that Build Alternative 1br is a feasible and prudent alternative is appropriate for this Section 4(f) to resolve adverse effects.

7.4 Sections 401 and 402 – Clean Water Act

The CWA provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the waters of the United States through the implementation of the following sections of the CWA.

- **Section 401** of the federal CWA specifies that states must certify that any activity subject to a federal permit that results in discharge into waters of the United States meet all state water quality standards (33 U.S.C. 1341 and 40 CFR 121). In California, the State Water Quality Control Board and the regional boards are responsible for taking certification actions for activities subject to any federally issued permits. Wetlands and waters in the Project area are subject to the jurisdiction of the Santa Ana RWQCB (Region 8).
- **Section 402** establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the United States. RWQCB administers this permitting program in California. Section 402(p) requires permits for discharges of stormwater from industrial/construction and municipal separate storm sewer systems.

A Section 401 water quality certificate and a Section 402 NPDES permit will be obtained prior to construction of the proposed Project. Once the Final EIR/EIS is approved, the Project will move into the PS&E phase when design of the preferred alternative will be finalized. Permit applications for the proposed Project will be submitted to the appropriate agencies once the Final EIR/EIS is approved.

7.5 Section 307(c) Clean Air Act

The Federal Clean Air Act (FCAA), as amended in 1990, is the federal law that governs air quality while the California Clean Air Act of 1988 is its companion state law. These laws, and related regulations by the USEPA and California Air Resources Board (ARB), set standards for the quantity of pollutants that can be in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and state ambient air quality standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns. The criteria pollutants are: carbon monoxide, nitrogen dioxide, ozone, particulate matter, broken down for regulatory purposes into particles of 10 micrometers or smaller—(PM₁₀) and particles of 2.5 micrometers and smaller—(PM_{2.5}), lead, and sulfur dioxide. In addition, state standards exist for visibility

reducing particles, sulfates, hydrogen sulfide, and vinyl chloride. The NAAQS and state standards are set at a level that protects public health with a margin of safety, and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics). Some criteria pollutants are also air toxics or may include certain air toxics within their general definition.

Federal and state air quality standards and regulations provide the basic scheme for project-level air quality analysis under NEPA/CEQA. In addition to this type of environmental analysis, a parallel “Conformity” requirement under the FCAA also applies.

FCAA 176(c) prohibits the USDOT and other federal agencies from funding, authorizing, or approving plans, programs, or projects that are not first found to conform to State Implementation Plan (SIP) for achieving the goals of the FCAA requirements related to the NAAQS. “Transportation Conformity” Act occurs on two levels: the regional—or planning and programming—level, and the project level. The proposed project must conform at both levels to be approved. Conformity requirements apply only in nonattainment and “maintenance” (former nonattainment) areas for the NAAQS, and only for the specific NAAQS that are or were violated. USEPA regulations at 40 CFR 93 govern the conformity process.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the standards set for carbon monoxide, nitrogen dioxide, ozone, particulate matter (PM₁₀ and PM_{2.5}) and, in some areas, sulfur dioxide. California has nonattainment or maintenance areas for all of these transportation-related “criteria pollutants” except sulfur dioxide, and also has a nonattainment area for lead. However, lead is not currently required by the FCAA to be covered in transportation conformity analysis. Regional conformity is based on RTPs and federal Transportation Improvement Programs (TIPs) that include all of the transportation projects planned for a region over a period of at least 20 years for the RTP, and 4 years for the TIP. RTP and TIP conformity is based on use of travel demand and air quality models to determine whether or not the implementation of those projects would conform to emission budgets or other tests showing that requirements of the Clean Air Act and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization, the FHWA, and the Federal Transit Administration (FTA) make determinations that the RTP and TIP are in conformity with the SIP for achieving the goals of the FCAA. Otherwise, the projects in the RTP and/or TIP must be modified until conformity is attained. If the design

concept, scope, and open to traffic schedule of a proposed transportation project are the same as described in the RTP and TIP, then the proposed project is deemed to meet regional conformity requirements for purposes of project-level analysis.

Conformity at the project level also requires hot-spot analysis if an area is “nonattainment” or “maintenance” for carbon monoxide and/or particulate matter (PM₁₀ or PM_{2.5}). A region is “nonattainment” if one or more of the monitoring stations in the region measures violation of the relevant standard, and USEPA officially designates the area nonattainment. Areas that were previously designated as nonattainment areas but subsequently meet the standard may be officially redesignated to attainment by the USEPA, and are then called “maintenance” areas. Hot-spot analysis is essentially the same, for technical purposes, as carbon monoxide or particulate matter analysis performed for NEPA purposes. Conformity does include some specific procedural and documentation standards for projects that require a hot-spot analysis. In general, projects must not cause the hot-spot-related standard to be violated and must not cause any increase in the number and severity of violations in nonattainment areas. If a known carbon monoxide or particulate matter violation is located in the project vicinity, the project must include measures to reduce or eliminate the existing violation(s) as well.

The Project would be located in the eastern part of the South Coast Air Basin (Basin).

7.5.1 Regional Conformity

The Project would be located in a federal nonattainment area for ozone, PM_{2.5}, and PM₁₀ and a federal maintenance area for carbon monoxide and must demonstrate regional conformity for these pollutants.

The proposed Project is listed in the SCAG 2012-2035 financially constrained RTP, which was found to conform by SCAG on April 4, 2012, and FHWA and the FTA made a regional conformity determination on June 4, 2012. The Project is also included in the SCAG financially constrained 2011 FTIP, Riverside County, Previously Obligated Projects, page 12, project ID RIV62024. The SCAG 2011 FTIP was determined to conform by FHWA and FTA on December 14, 2010. The Project description in the 2012-2035 RTP and 2011 FTIP is: “On SR 79 in Southwestern Riverside County between 2.0 kilometers south of Domenigoni Parkway to Gilman Springs Road: Realign and Widen SR 79 from 2 to 4 through lanes.” The design concept and scope of the proposed Project are consistent with the project description

in the 2012-2035 RTP, and the 2011 FTIP, and the “open to traffic” assumptions of the SCAG’s regional emissions analysis.

7.5.2 Project-Level Conformity

The proposed Project would be located in a federal nonattainment or maintenance area for carbon monoxide, PM_{2.5}, and PM₁₀ and must also demonstrate Project-level conformity. The following sections will evaluate whether the proposed Project would cause or contribute to any new localized carbon monoxide, PM_{2.5}, and/or PM₁₀ violations or increase the frequency or severity of any existing violations in carbon monoxide, PM_{2.5}, and PM₁₀.

7.5.2.1 Carbon Monoxide Hot Spots

The USEPA redesignated the South Coast Air Basin as attaining the federal carbon monoxide standards, effective June 11, 2007. Under Section 175A of the FCAA; however, this means that the Basin is a maintenance area for carbon monoxide. According to the Transportation Conformity Regulation (40 CFR Part 93 Subpart A), maintenance areas must demonstrate Project-level conformity for carbon monoxide. Project-level conformity for carbon monoxide is demonstrated by evaluating the potential for a project to create carbon monoxide hot spots.

Localized carbon monoxide impacts resulting from the proposed build alternatives were evaluated following Caltrans guidance document, *Transportation Project-Level Carbon Monoxide Protocol* (Carbon Monoxide Protocol) (UCDITS 1997). The Carbon Monoxide Protocol includes two conformity requirement decision flow charts. According to the Carbon Monoxide Protocol, the proposed Project is satisfactory, and no further analysis is needed. The proposed Project would not be expected to create a carbon monoxide hot spot; therefore, the proposed Project has demonstrated project-level conformity for carbon monoxide.

7.5.2.2 Particulate Matter Hot Spots

On March 10, 2006, USEPA issued amendments to the Transportation Conformity Rule to address localized impacts of particulate matter: “PM_{2.5} and PM₁₀ Hot-Spot Analyses in Project-level Transportation Conformity Determinations for the New PM_{2.5} and Existing PM₁₀ National Ambient Air Quality Standards” (71 Federal Register 12468). As required by the amended transportation conformity rule, a qualitative PM₁₀ and PM_{2.5} hot-spot analysis was completed following the *Transportation Conformity Guidance for Qualitative Hot-spot Analyses in PM₁₀ and PM_{2.5} Nonattainment and Maintenance Areas* (USEPA 2006). The PM₁₀/PM_{2.5} hot-

spot analysis was submitted for review by the SCAG Transportation Conformity Working Group in October 2008. The PM₁₀/PM_{2.5} hot-spot analysis was approved for NEPA circulation at the November 2008 meeting. The SCAG Transportation Conformity Working Group concurrence of the analysis is included at the end of Chapter 5 (Volume 2). The entire qualitative PM₁₀/PM_{2.5} analysis is included in Appendix C of the Final Air Quality Technical Report.

USEPA specified in 40 CFR 93.123(b)(1) of the final rule that Projects of Air Quality Concern (POAQC) are certain highway and transit projects involving significant levels of diesel vehicle traffic or other projects identified in the PM_{2.5} or PM₁₀ SIP as a localized air quality concern. A qualitative analysis of localized PM₁₀ and PM_{2.5} impacts was prepared because the proposed Project has the potential to be a POAQC. Although the proposed Project would not result in a significant increase in the number of diesel vehicles, the magnitude of the Project and the potential to move emissions sources closer to receptors were the criteria used to conclude that the Project might be a POAQC.

The project-level hot-spot analysis for PM₁₀ and PM_{2.5} was conducted to assess whether the Project would cause or contribute to any new localized PM₁₀ or PM_{2.5} violations, increase the frequency or severity of any existing violations, or delay timely attainment of the PM₁₀ or PM_{2.5} NAAQS. The following NAAQS were used to evaluate the Project:

- PM₁₀ 24-hour standard of 150 micrograms per cubic meter (µg/m³)
- PM_{2.5} 24-hour standard of 35 µg/m³)
- PM_{2.5} annual standard of 15 µg/m³)

Construction-related PM_{2.5} and PM₁₀ emissions were not included in this hot spot analysis because the construction period for the Project would be less than 5 years (40 CFR 93.123(c)(5)). Project construction activities are expected to require 39 or 40 months, depending on which build alternative is selected.

Additionally, secondary PM_{2.5} emissions were not included because these emissions would be associated with regional impacts rather than a localized impact.

The qualitative PM₁₀/PM_{2.5} analysis evaluated the proposed Project's contribution to ambient concentrations, compared traffic conditions between the alternatives, and provided an estimate of emissions for 2004, 2015, and 2035. Peak direct emissions were estimated to occur in 2035.

The analyses found that the proposed Project would result in fewer emissions than the roadways near the monitoring stations with recorded PM₁₀ and PM_{2.5} exceedances and would improve LOS, increase vehicle speed, and result in peak emissions in 2035 that would be lower than the No Build Alternative. Therefore, any increase of PM₁₀ and PM_{2.5} cannot be attributable to the proposed Project; therefore, the Project would not be expected to cause or contribute to any new localized PM₁₀ or PM_{2.5} violations, would not increase the frequency or severity of any existing violations of the PM₁₀ or PM_{2.5} NAAQS, and would not delay timely attainment of the PM₁₀ or PM_{2.5} NAAQS. As such, the Project demonstrates the conformity requirements in 40 CFR 93.123(b).

7.5.2.3 Mobile-Source Air Toxics Analysis

On September 30, 2009, the FHWA posted interim guidance on when and how to analyze mobile-source air toxics (MSATs) as part of the NEPA process for highways (FHWA 2009). The MSAT Guide is termed ‘interim’ because the science of studying air toxics from mobile sources continues to evolve. Tools for estimating MSAT emissions, performing dispersion modeling, and assessing project-specific health impacts have not yet been developed. In addition, there are no established criteria for determining when MSAT emissions should be considered a significant NEPA issue.

According to the MSAT Guide Interim Guide, at the Project level, MSAT emissions for the build alternatives and would be lower than MSAT emissions for the No Build Alternative due to the improvement of LOS under the build alternatives. At the regional level, MSAT emissions are likely to be substantially lower in the future due to the magnitude of the USEPA-projected reductions.

7.5.2.4 Naturally Occurring Asbestos

In addition to carbon monoxide, PM_{2.5} and PM₁₀, and MSATs, asbestos may also cause localized impacts.

Asbestos may occur naturally in serpentine and ultramafic rock and can be released when the rock is broken or crushed. Demolition would not occur as part of the proposed Project construction, so release of asbestos from construction is not expected. The Asbestos Airborne Toxic Control Measure for construction, grading, quarrying, and surface mining operations was adopted by the ARB on July 26, 2001. This Asbestos Airborne Toxic Control Measure covers disturbance of areas with naturally occurring asbestos, serpentine, or ultramafic rock. According to the Department of Conservation, Division of Mines and Geology, the proposed Project is located in a county that does not contain serpentine or ultramafic rock (ARB 2001).

Fugitive asbestos from these naturally occurring materials would not be emitted during construction or operation of the proposed Project. The proposed Project, therefore, is not expected to cause an impact to air quality from asbestos emissions.

7.5.2.5 Construction Impacts

The Project would result in temporary impacts from elevated exhaust emissions of reactive organic gases, carbon monoxide, nitrogen oxide, PM₁₀, and PM_{2.5} from construction equipment and vehicle operations. However, the Project would be in compliance with the FCAA through the implementation of state and local regulatory requirements, Caltrans' Standard Specifications for Construction, and Non Standard Specifications. These specifications would reduce the temporary effects of construction on air quality from emissions of nitrogen oxide, reactive organic gases, carbon monoxide, PM₁₀, and PM_{2.5}.

7.6 Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act applies to any federal project where the waters of any stream or other body of water are impounded, diverted, deepened, or otherwise modified. Project proponents are required to consult with the USFWS and the appropriate state wildlife agency. These agencies prepare reports and recommendations that document project effects on wildlife and identify measures that may be adopted to prevent loss or damage to wildlife resources. The term "wildlife" includes both animals and plants. Provisions of this act are implemented through the NEPA and Section 404 permit process.

The Project would comply with the Act through the NEPA/CWA Section 404 Integration Process MOU, as well as, Section 7 of the FESA, to ensure that wildlife resources receive adequate protection from Project impacts.

7.7 Environmental Justice

Projects involving a federal action (funding, permit, or land) must comply with Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, signed by President Clinton on February 11, 1994. This Executive Order directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. "Low income" is defined based on the Department of Health and Human Services

poverty guidelines. For 2010, the year of the most recent available Census data, this was \$22,050 for a family of four. For 2007, the baseline year for the analyses in this report, this was \$21,203 for a family of four.

All considerations under Title VI of the Civil Rights Act of 1964 and related statutes have also been included in this Project. The Department's commitment to upholding the mandates of Title VI is evidenced by its Title VI Policy Statement, signed by the Director, which can be found in Appendix D of this document.

No disproportionately high and adverse effect on minority and/or low-income population groups would result from any of the Project build alternatives or design options. Refer to Section 3.1.4.3 of the Draft EIR/EIS for full details.

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Chapter 8 Compensatory Mitigation

8.1 Mitigation Approach and Strategy

Currently there are no approved wetland mitigation banks or established in-lieu fee programs that cover the Project area. Therefore, the RCTC (the permittee) will be responsible for mitigation resulting from unavoidable impacts to wetlands.

The objective of this preliminary compensatory mitigation plan is to offset the loss of aquatic resource functions as a result of unavoidable impacts to wetlands. In 2008, the USACE and USEPA issued rules regarding wetland mitigation that stress the importance of providing the greatest benefit to the resources, on a landscape and watershed context, with the highest likelihood of success (mitigation rule) [40 CFR Part 230]. As outlined in the 2008 Compensatory Mitigation Rule, 12 fundamental components should be included in the compensatory mitigation plan: objectives; site selection criteria; site protection instruments (e.g., conservation easements); baseline information (for impact and compensation sites, including maps); credit determination methodology; a mitigation work plan; a maintenance plan; ecological performance standards; monitoring requirements; a long-term management plan; an adaptive management plan; and financial assurances. While some of this information has not been finalized at this stage of the Project, the following sections describe the conceptual mitigation plan for the Project, and include as much information as is available at this time for each of these 12 fundamental components.

8.1.1 Mitigation Objectives

Regulatory and resource agencies have stressed the importance of large scale regional planning for the conservation of large ecosystems for the protection of important habitats such as vernal pools as well as threatened and endangered species (Leidy and White 1996; Goude 2007). In the Project area, the Western Riverside County MSHCP provides such a framework for large-scale regional planning. The MSHCP provides an important context for wetland mitigation because it was established by multiple federal, state, and local resource agencies, as well as public involvement, to devise a plan that would enhance and maintain biological diversity and ecosystem processes in the an area subject to rapid urban growth and development.

One of the primary objectives of the mitigation rule was to “maintain and improve the quantity and quality of wetlands and other aquatic resources in watersheds through strategic selection of compensatory mitigation sites” (40 CFR 230). The MSHCP

provides an important context for mitigation planning because it was developed based on key principles of conservation biology including conservation of large habitat blocks, conservation of habitat diversity and contiguous connected preserves.

8.1.2 Site Selection

Important considerations identified in the MSHCP for high priority conservation areas include biological diversity, population abundance, irreplaceability, representativeness, number of threatened and endangered species, naturalness, threats and management, among others. These factors were considered when identifying potential mitigation sites. In particular, key factors used in the identification of mitigation sites included the following criteria:

- Sites that contained relatively intact vernal pools, alkali grasslands, and alkali playas
- Sites that were part of a larger vernal pool landscape
- Sites adjacent to existing preserved areas to create contiguous sections of protected habitat
- Areas that had been identified as MSHCP criteria cells and core linkage areas
- Areas designated as critical habitat for spreading navarretia
- Sites that provided habitat for large populations of threatened and endangered species
- Sites that are currently unprotected and threatened by urban development

The mitigation strategy for unavoidable impacts is focused on the preservation of rare, high-value wetland resources that are currently threatened by urban developments. As described in the following sections, this mitigation approach is based on offsetting impacts to fragmented, generally low quality wetlands with the protection of a large area of high-value wetland landscape.

8.1.3 Site Protection Instruments

The proposed mitigation includes either the direct purchase of lands containing high value conservation resources or the establishment of conservation easements by RCTC. The purchased lands would become incorporated into the regional conservation areas in western Riverside County.

8.2 Assessment of Impacted Wetland and Proposed Mitigation Sites – Baseline Information

Excluding excavated drainage ditches the Preferred Alternative (1br) would impact a total of 15.29 acres of wetlands, including vernal pools, seasonal wetlands, riparian wetlands, agricultural wetlands, and constructed ponds, as shown in Table 8.2-1, 404 Wetlands Impact and Mitigation Summary. The 2008 mitigation rule considers the quality of the impacted wetlands when determining mitigation, such that relatively low-quality wetlands may be mitigated for with higher-quality wetlands at a lower compensation ratio. The rule also allows the USACE to consider the relative ecological value of aquatic resources when determining appropriate compensation ratios. For the purposes of mitigation, functional assessments such as the California Rapid Assessment Method (CRAM), is often used to compare impacted wetlands with mitigation wetlands. For the purposes of this preliminary compensatory mitigation plan, a desktop CRAM assessment was completed for both the impacted and proposed mitigation sites based on information from the wetland delineation report (Caltrans 2008). While CRAM is a useful tool, it does not take into account a number of other factors that were critical in determining appropriate mitigation for the Project, including the broader landscape context of the wetlands beyond 500 meters, areas identified in regional conservation planning as high-priority preservation sites, presence and abundance of threatened and endangered species, designated critical habitat, and adjacency to existing protected areas. These factors were important considerations above and beyond the preliminary CRAM score when examining impacts to wetlands and selection of appropriate mitigation.

Wetland impacts occur in relatively isolated areas that are not part of a larger vernal pool landscape. Most of the impacted wetlands had low CRAM scores, and none of the impacted wetlands is located in MSHCP criteria cells, core linkage areas, designated critical habitat, or support threatened or endangered species, as shown in Table 8.2-1, 404 Wetlands Impact and Mitigation Summary, and on Figure 8.2-1, Wetland Impacts by Alternative 1B with Refinements. The following sections provide a summary of the impacted wetlands in the Project area.

8.2.1 Vernal Pools

The Project will permanently impact a total of three vernal pools on the northwest side of the intersection of Esplanade Avenue and Warren Road (Figure 8.2-1b, Wetland Impacts by Alternative 1B with Refinements). The largest vernal pool (VP0109) is 1.97 acres in size and is characterized by a scattered cover of native

vernal pool plants including wire-stemmed popcorn flower (*Plagiobothrys leptocladus*), woolly marbles (*Psilocarphus brevissimus*) and salt-marsh sand spurry (*Spergularia marina*). Seasonally ponded water in this area ranges between 3 and 10 inches deep. Two smaller vernal pools (VP0110 and VP0111) are located on the north side of this larger vernal pool. These wetlands are 0.01 and 0.01 acre in size, respectively. Both of these depressional basins were characterized by a mixture of vernal pool and alkaline tolerant plants including wire-stemmed popcorn flower, woolly marbles, salt-marsh sand spurry, California alkali plantain (*Plantago elongata*) and low barley (*Hordeum depressum*). These areas appear to support shallow seasonal ponding during the wet season. Based on a preliminary functional assessment (desktop) using CRAM, this vernal pool complex was given a score of 66.5.

The Stoney Mountain Wetlands Preserve is located approximately 800 feet south of this vernal pool complex, on the east side of Warren Road and there is a constructed seasonal wetland and excavated ditch on the south side of the large vernal pool. Most of the surrounding landscape is characterized by uplands including agricultural fields and some residential developments. The large vernal pool supports a large population of smooth tarplant (*Centromadia pungens* ssp. *laevis*), a California Native Plant Society (CNPS) rare plant rank 1B.1 species, as well as, a large population of little mouseltail (*Myosurus minimus* ssp. *apus*) CNPS rare plant rank 3. No state or federally listed threatened or endangered plants or animals were identified in this area.

8.2.2 Seasonal Wetlands

The Project would result in permanent impacts to four seasonal wetlands totaling 0.9 acre (Figure 8.2-1, Wetland Impacts by Alternative 1B with Refinements). Seasonal wetland SW0032 is a 0.17-acre constructed basin north of Esplanade Avenue in a horse pasture, south of the vernal pool complex. The central part of the wetland is characterized by grasses including dense-flowered sprangletop (*Leptochloa uninervia*) and barnyard grass (*Echinochloa crus-galli*) with saltcedar (*Tamarix ramosissima*) around the outer edges of the basin. This seasonal wetland had a CRAM score of 41.6 (Table 8.2-1, 404 Wetlands Impact and Mitigation Summary). The landscape context is similar to the vernal pool area described above. No special-status plants or animals were associated with this seasonal wetland.

Seasonal Wetland SW0033 is associated with a drainage ditch/swale along the east side of the San Diego Aqueduct. A small section of the northern part of the drainage

feature, 0.04 acres, is located within the Project Area. In this location the feature is characterized by dense growth of Italian ryegrass (*Festuca perennis*). No Special-status plants or animals are associated with this wetland.

Seasonal wetland SW0035 is located on the east side of North Sanderson Avenue, South of North Ramona Boulevard. This 0.14-acre wetland appears to be a constructed shallow depression that is devoid of herbaceous vegetation but supports black willow (*Salix gooddingii*). The CRAM score for this wetland was 54.1 (Table 8.2-1, 404 Wetlands Impact and Mitigation Summary). This wetland is located in a former motor cross area and the area immediately around the wetland is highly disturbed. However, other constructed basins supporting wetland vegetation are present in the immediate vicinity. Most of the surrounding landscape in this area is characterized by agricultural lands. Despite the disturbed nature of the area, the lands around the wetland support a large population of smooth tarplant. No special-status plants or animals were directly associated with this wetland.

Seasonal wetlands SW0036 (0.05 acre) and SW0037 (0.39 acre) are located in low depressional areas along the south side of the Ramona Expressway and would be permanently impacted by the Project. SW0036 is a shallow roadside depression that was characterized entirely by curly dock (*Rumex crispus*) with shallow seasonal inundation to a depth of 3 inches. SW0037 is a larger and deeper basin that had seasonal ponding to a depth of 10 inches in some areas. Dominant vegetation associated with this wetland includes Bermuda grass (*Cynodon dactylon*), tall nut-sedge (*Cyperus eragrostis*) and scattered cattail (*Typha latifolia*). CRAM scores for these wetlands were 37.1 and 45.8, respectively (Table 8.2-1, 404 Wetlands Impact and Mitigation Summary). Both wetlands are located within the ROW of the Ramona Expressway and are subject to routine roadway maintenance activity, including mowing. Most of the surrounding land use consists of intensive agriculture and ruderal disturbed areas. No special-status plants or animals were associated with these wetlands.

Seasonal wetland SW0038 is located along the west side of North Sanderson Avenue and includes 0.14 acre. This roadside wetland is characterized by salt grass (*Distichlis spicata*) and bulrush (*Schoenoplectus americanus*) and is seasonally inundated with up to 12 inches of water. This wetland had a preliminary CRAM score of 45.7. No special-status plants or animals are associated with this wetland.

8.2.3 Riparian Wetland

Portions of two riparian wetlands fall within the footprint of the proposed ROW and these areas were considered to be permanently impacted. A small portion of RP001 (0.04 acre) on the east side of North Sanderson could be impacted by the Project. This area is characterized mostly by black willows growing along the edge of a small drainage and constructed pond (east of the ROW). Other vegetation includes some cottonwood (*Populus fremontii*), coyote bush (*Baccharis pilularis*) and giant reed (*Arundo donax*). This area received a CRAM score of 49.8 (Table 8.2-1, 404 Wetlands Impact and Mitigation Summary). The San Jacinto Reservoir and other constructed and managed ponds are located south of this area, but there are no natural wetlands and most of the surrounding land use comprises agricultural lands. No special-status plants or animals were associated with this wetland.

The second riparian wetland (RP002) is located on the west side of North Sanderson Avenue, south of North Ramona Boulevard. The Project would permanently impact 1.56 acres of this riparian wetland. This area is characterized by black willow trees with an understory of perennial pepperweed (*Lepidium latifolium*). This area received a preliminary CRAM score of 51.9 (Table 8.2-1, 404 Wetlands Impact and Mitigation Summary). Most of the surrounding land use is agriculture. Constructed basins supporting wetland vegetation are present on the east side of Sanderson Avenue, but there are no natural wetlands or vernal pools in the surrounding area. With the exception of numerous smooth tarplants associated with a drainage channel along the south side of this wetland no special-status plants or animals were associated with this wetland.

8.2.4 Agricultural Wetlands

The Project would result in impacts to three wetlands located in agricultural fields at the northern end of the Project area. Wetland AW0019 is located in the corner of a disked field on the southeast side of the intersection of North Sanderson Avenue and North Ramona Boulevard. This 0.34-acre wetland is characterized by sparse weedy wetland plants including five-hook bassia (*Bassia hyssopifolia*), perennial pepper weed and Bermuda grass. The preliminary CRAM score for this area was 40.9 (Table 8.2-1, 404 Wetlands Impact and Mitigation Summary). The surrounding landscape supports some other agricultural wetlands and constructed basins with wetland vegetation, but most of the surrounding land use is agriculture and disturbed areas. No special-status plants or animals were associated with this wetland.

The largest agricultural wetland, AW0021, (8.82 acres) is located on the north side of the Ramona Expressway in a cultivated field associated with a dairy farm. This large wetland includes low cover of scattered wetland plants including five-hook bassia, salt marsh sand spurry, swamp pricklegass (*Crypsis schoenoides*) and toad rush (*Juncus bufonius*). A smaller ponded area, AW0022, (0.27 acre) is located in the same field, north of the large wetland, and was devoid of plants at the time of the survey due to active cultivation. Preliminary CRAM scores for these wetlands were 44.4 and 47.5 (Table 8.2-1, 404 Wetlands Impact and Mitigation Summary). Manure is regularly spread on this field and both areas are actively disked. Surrounding lands are primarily cultivated agriculture lands, although some riparian and wetland areas are present in the northeast corner of the field along both sides of North Sanderson Avenue, south of the San Jacinto River. No special-status plants or animals were associated with these wetlands.

8.2.5 Constructed Ponds

The Project will result in direct permanent impacts to one constructed ponds on the east side of North Sanderson Avenue, South of North Ramona Boulevard. The Project would impact 1.35 acres of constructed pond CP006, which is characterized by a large constructed basin surrounded by black willow and cottonwood trees with an understory of perennial pepperweed. The preliminary CRAM scores for this area is 37.0 (Table 8.2-1, 404 Wetlands Impact and Mitigation Summary). This wetland is located in a former motor cross area and the area immediately around the wetland is highly disturbed. However, other constructed basins supporting wetland vegetation are present in the immediate vicinity. Most of the surrounding landscape in this area is characterized by agricultural lands. Despite the disturbed nature of the area, the lands around the wetland support a large population of smooth tarplant, but no special-status plants or animals were directly associated with these wetlands.

8.2.6 Proposed Mitigation Sites

Proposed mitigation sites include five separate sites that were all included in the environmental surveys and wetland delineation for the Project, so detailed ecological information is available for comparison with the impacted sites (Table 8.2-1, 404 Wetlands Impact and Mitigation Summary). In addition to the significant wetland and other biological resources associated with each of these sites (including large populations of threatened and endangered species), these areas were selected because they have all been identified as MSHCP criteria cells and core linkage areas, are within designated critical habitat, and are adjacent to and would expand upon

existing conserved lands. Additionally, the proposed mitigation sites are part of what is likely one of the best remaining examples of vernal pool habitat remaining in the region.

8.2.6.1 Mitigation Site 1

This site includes a 2.5-acre vernal pool complex. Based on the preliminary CRAM score, this wetland complex has a score of 68.3 which is only slightly higher than the CRAM Score of 66.5 for impacted vernal pools (Table 8.2-1, 404 Wetlands Impact and Mitigation Summary). However, this fails to take into account the fact that the vernal pool complex support the only documented location for the federally endangered vernal pool fairy shrimp in the vicinity of the Project, as well as, significant large populations of threatened and endangered plant species, such as spreading navarretia, California orcutt grass, and San Jacinto Valley crownscale (Table 8.2-1, 404 Wetlands Impact and Mitigation Summary), or the above mentioned conservation value of this site in the regional context.

8.2.6.2 Mitigation Site 2

This site contains 1.16 acres of vernal pools and 1.85 acres of seasonal wetlands. The preliminary CRAM scores for the vernal pools in this area were 76.3 and 71.0, but this site also supports a very large population of San Jacinto Valley crownscale, and populations of spreading navarretia, which are both federally listed as threatened plant species (Table 8.2-1, 404 Wetlands Impact and Mitigation Summary).

8.2.6.3 Mitigation Site 3

This site includes 4.64 acres of vernal pools. The large vernal pool complex located in this area was given a preliminary CRAM score of 82.4 (nearly double the average CRAM score for impacted agricultural wetlands and seasonal wetlands) [Table 8.2-1, 404 Wetlands Impact and Mitigation Summary]. As with Sites 1 and 2, this area also provides habitat for threatened plant species: San Jacinto Valley crownscale and spreading navarretia. This site is also significant as it is located immediately adjacent to the existing MWD Salt Creek Preserve, as well as, conservation lands recently acquired by the RCA. The acquisition of this parcel would result in a large contiguous block of preserved habitat.

8.2.6.4 Mitigation Site 4

This site is located immediately adjacent to the MWD and RCA preserves. This site has 3.39 acres of vernal pool habitat with a CRAM score of 70.8, as well as, a constructed pond (Table 8.2-1, 404 Wetlands Impact and Mitigation Summary). As

with the other mitigation sites, this area supports San Jacinto Valley crownscale and spreading navarretia populations, which are both federally threatened plant species. This site is also contiguous with RCA conserved lands to the east along the west side of Warren Road.

8.2.6.5 Mitigation Site 5

This site is also located immediately adjacent existing RCA conserved lands. This site includes 6.90 acres of vernal pool habitat with a preliminary CRAM score of 65.5 (Table 8.2-1, 404 Wetlands Impact and Mitigation Summary). Of all of the proposed mitigation sites presented in this document, this wetland is the most disturbed as a result of regular disking. Despite this disturbance, this complex supports a number of vernal pool plants including a large population of the federally threatened San Jacinto Valley crownscale.

8.3 Focus on Preservation

The 2008 mitigation rule stresses the importance of mitigation site selection at a landscape and watershed scale and notes that certain types of aquatic resources, such as vernal pools, are difficult to replace. Where impacts are unavoidable, compensatory mitigation should be provided through in-kind preservation, rehabilitation or enhancement to the extent practicable. As described in the previous sections, the proposed mitigation sites include high-value wetland resources in areas that have been determined through a well-established regional conservation plan that are high priority areas for preservation. Quantification of remaining vernal pool habitat in southern California is difficult to assess, but it is clear that only a very small amount remains and much of what is left occurs in disturbed and fragmented landscapes (Bauder and McMillian 1996). The United States Fish and Wildlife Service (1998) estimates that 97 percent of the vernal pool habitat in southern California is now gone. Despite some existing fragmentation of the proposed mitigation sites, they represent some of the best remaining, large-scale vernal pool landscape habitat in the regional vicinity of the Project area and are therefore a high priority for conservation.

Despite the ecological value of these areas, they are threatened with further fragmentation and loss. The City of Hemet is one of the fastest growing cities in southern California. In 1990, the population was 36,094 and as of the 2010 census the population had more than doubled to over 78,053 (City of Hemet General Plan). Increased population growth also resulted in increased development with the number

of housing units also doubling during the same period of time. The population continues to expand and is expected to reach over 100,000 in the foreseeable future (City of Hemet General Plan). While all of the proposed mitigation sites fall within MSHCP criteria cells (areas that have been identified as priority conservation areas), none of them have been designated as open space or conservation areas in the City of Hemet's General Plan. In contrast, all of the areas are currently designated for either residential or industrial development despite their known high conservation value. Given the past population and projected population growth, and associated increased demand for housing, jobs, and services, these areas will likely be developed if not protected.

The goal of wetland mitigation is to ensure no net loss of wetland values, functions and acreage. To achieve no net loss of wetland acreage, wetland restoration or creation are often used as mitigation; however in certain situations where the success of replacing lost functions and values has variable success, such as vernal pools, full replacement of wetland acreage and function may not be achieved. This is particularly true in the case of vernal pools where the success of vernal pool creation met with mixed results, in terms of long-term success of replacing functions and values (Sutter and Francisco 1996). Leidy and White (1996) note that "preservation as an approach to vernal pool compensation will be most valuable when implemented as part of a larger ecosystem or watershed complex." The other issue with vernal pool creation is that it may replace wetland area, but it is very difficult to replace the ecological processes and functions associated with larger vernal pool landscapes including hydrologic process, metapopulation dynamics, plant – pollinator relationships and other ecosystem functions. In terms of compensation for vernal pools, one of the criteria should be prioritization and should be given to the identification and protection of the best remaining vernal pool ecosystems based on the diversity of vernal pools (including pool size, shape, and depth), proximity to other wetland and upland habitat types, and habitat integrity (Leidy and White 1996). Where preservation is used to the extent appropriate and practicable, it should be done in conjunction with restoration, enhancement and establishment; however, this requirement may be waived by the USACE and USEPA where preservation areas has been identified as a high priority within the watershed, but higher compensation ratios are required. Preservation ratios may be adjusted for impacts to low functioning wetlands with high quality vernal pools such as those that provide habitat for threatened and endangered species, for example.

8.4 Determination of Mitigation Ratios

Mitigation ratios for unavoidable impacts will ultimately be determined using the USACE South Pacific Division Standard Operation Procedures for Determining Mitigating Ratios. For the purposes of this conceptual mitigation plan a number of factors were used to determine appropriate conservation measures, including the acreage and types of wetlands impacted, and the acreage and types of wetlands in the proposed conservation areas. Preliminary functional assessments (CRAM) of the impacted and proposed mitigation wetlands were a consideration in determining the ratios; however, several other factors that are not accounted for using CRAM were also considered. These include the broader, regional conservation goals and landscape context necessary to maintain the greatest extent of ecosystem function, as well as, the conservation value of the sites to the protection and recovery of listed threatened and endangered species.

Of primary importance to the proposed mitigation approach are a consideration of the wetland resources that are being impacted and the value of the wetlands proposed for conservation and preservation. For example, over half of the total wetland impacts are associated with actively farmed wetlands covered in manure, plowed and cultivated annually, and characterized by a mixture of nonnative and scattered common wetland plants (non-vernal-pool endemic plants) that provide minimal wetland functions and values. These areas would be compensated by protection of a large area of high-quality vernal pool habitat that has been identified as a conservation priority, supports thousands of threatened and endangered plant species, and expands existing conservation lands.

8.4.1 Vernal Pools

Given the importance of vernal pool habitats, proposed mitigation for permanent impacts to 1.99 acres of vernal pools would include the preservation of high priority vernal pool habitat. Mitigation would be accomplished through the purchase and preservation of Mitigation Sites 1 and 4. In terms of preliminary functional assessment (CRAM), the impacted and proposed mitigation pools are similar (66.5 for the impacted pools and 68.3 and 70.8 for the proposed mitigation sites). However, the proposed mitigation sites have many other notably higher conservation values relative to the impacted wetlands as shown on Table 8.2-1, 404 Wetlands Impact and Mitigation Summary. For example, the impacted vernal pool complex is not part of a larger vernal pool landscape, does not support federally listed threatened

or endangered species, and is not located in designated critical habitat or any MSHCP criterial cells or core linkage areas.

8.4.2 Other Wetland Types

As described above, other wetland types that would be impacted include seasonal wetlands, riparian wetlands, agricultural wetlands, and constructed ponds for a total of 13.35 acres. The average preliminary CRAM values for these areas range between 41.9 and 50.8. Preservation of mitigation areas 2, 3 and 5, containing 15.82 acres of wetlands, including 12.71 acres of high-value vernal pools, 1.85 acres of seasonal wetlands and 1.26 acres of a constructed pond, would be used to offset impacts to these wetland areas. The lower mitigation value is proposed for these areas due to the highly fragmented, disturbed, and low diversity of these wetlands that would be replaced with high-value wetland resources. For example, the vernal pool complex associated with Mitigation Site 3 has a preliminary CRAM score of 82.4, which is double the average CRAM score for both seasonal and agricultural wetlands within the Project impact area (Table 8.2-1, 404 Wetlands Impact and Mitigation Summary). In addition, the fact that the proposed mitigation site supports large populations of threatened and endangered species, are contiguous with existing preserved lands, include critical habitat, and have been identified as MSHCP criteria cells and core linkage areas, adds to the overall ecological value of the mitigation sites.

Restoration and enhancement of vernal pools and other wetlands has not been explicitly included as part of this preliminary compensatory mitigation plan; however, the vernal pools located on Mitigation Site 5 are currently subject to regular disking, which degrades the overall quality of the wetland. Acquisition and protection of this area may allow for some natural recovery and enhancement of these wetlands. Additionally, the value of these areas and the very real threats to losses due to development make the preservation and conservation of these areas a priority. Once the lands have been protected, enhancement and restoration activities could be done at a later time as appropriate within the greater landscape context.

8.5 Mitigation Work Plan

The conceptual mitigation plan includes either the outright purchase of private lands or funding conservation easements for properties that have been identified as high priority conservation areas by the MSHCP. These lands and/or easements would then be transferred to the RCA for long term management as part of the regional conservation areas.

8.5.1 Maintenance Plan

Once purchased by RCTC and transferred, it is assumed that the RCA would be responsible for the long term maintenance of the preservation lands. As the primary emphasis is on preservation of existing resources, rather than creation or enhancement, it is anticipated that site maintenance requirements will be minimal.

8.5.2 Ecological Performance Standards

Ecological performance standards are used to assess whether the project is achieving its mitigation objectives. In this case, the performance standards are relative to the objectives of the compensatory mitigation which includes the preservation and protection of high value conservation lands.

In the event additional wetland enhancement and/or creation is incorporated as part of the mitigation for the Project, specific ecological performance standards will be developed. The performance standards will scientifically assess the functional capacity, including hydrology, biotic factors, and other characteristics relative to appropriate reference locations.

8.5.3 Monitoring Requirements

The proposed mitigation is intended to protect and conserve high value conservation areas and no wetland enhancement or creation is proposed at this time. Therefore, no monitoring required for adaptive management is anticipated to be required.

In the event additional wetland enhancement and/or creation is incorporated as part of the mitigation for the Project, specific monitoring procedures will be established for the mitigation sites, as well as, appropriate reference locations.

8.5.4 Long Term Management Plan

The proposed mitigation lands would be incorporated into the MSHCP conservation area and would be managed under the MSHCP and other existing management plans. Further discussion and conversation with the Resource Conservation Authority and RCTC will be necessary to develop the long term management plan for the proposed mitigation parcels.

8.5.5 Adaptive Management Plan

Because the lands will be incorporated into MSHCP conservation areas, RCTC assumes that the RCA will be responsible for development and implementation of

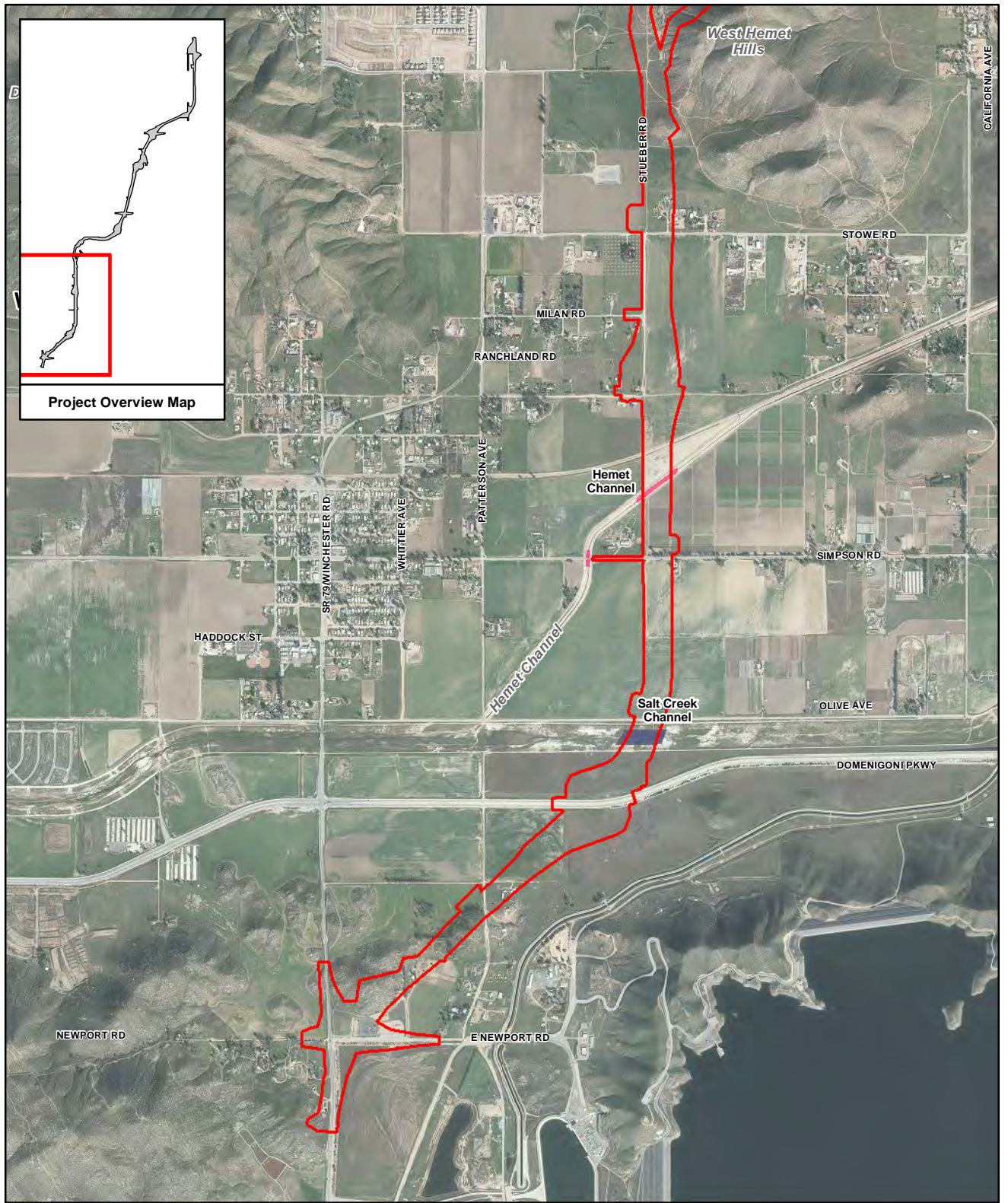
adaptive management of these areas in accordance with the MSHCP and other existing management plans.

8.5.6 Financial Assurances

RCTC will either purchase the proposed mitigation properties or will fund the conservation easements. The lands and/or easements will then be transferred to the RCA.

Table 8.2-1. 404 Wetlands Impact and Mitigation Summary

Wetlands and Special-Status Species	Build Alternative 1b With Refinements (1br) Impacts	Mitigation Site 1	Mitigation Site 2	Mitigation Site 3	Mitigation Sites 4	Mitigation Sites 5	Mitigation Summary Total
Wetland Area Summary (acres)							
Vernal Pool	1.99	2.51	1.16	4.65	3.39	6.90	18.61
Seasonal Wetlands	0.93	0	1.85	0	0	0	1.85
Riparian Wetlands	1.60	0	0	0	0	0	0
Agricultural Wetlands	9.42	0	0	0	0	0	0
Constructed Ponds	1.35	0	0	0	1.26	0	1.26
Total	15.29	2.51	3.01	4.65	4.65	6.9	21.72
Priority Conservation Criteria							
MSHCP Criterial Cell	No	Yes	Yes	Yes	Yes	Yes	Yes
MSHCP Core Linkage	No	Yes	Yes	Yes	Yes	Yes	Yes
Spreading Navarretia Critical Habitat	No	Yes	Yes	Yes	Yes	Yes	Yes
Part of Larger Vernal Pool Landscape	No	Yes	Yes	Yes	Yes	Yes	Yes
Adjacent to Existing Preserve	No	No	No	Yes	Yes	Yes	Yes
CRAM Scores (Preliminary Desk-Top Only)							
Vernal Pool Complex	66.5	68.3	76.3	82.4	n/a	65.5	72.6 (ave)
Vernal Pools	n/a	n/a	71.0	69.3	70.8	n/a	70.1 (ave)
Seasonal Wetlands	42.9	n/a	54.9	n/a	n/a	n/a	54.9 (ave)
Riparian Wetlands	50.8	n/a	n/a	n/a	n/a	n/a	n/a
Agricultural Wetlands	41.9	n/a	n/a	n/a	n/a	n/a	n/a
Constructed Ponds	37.0	n/a	n/a	n/a	n/a	n/a	n/a
Threatened and Endangered Species							
Vernal Pool Fairy Shrimp (FT)	No	Yes	No	No	No	No	n/a
Spreading Navarretia Individuals (FT)	0	28,533	1,547	247	606	0	30,933
California Orcutt Grass Individuals (FE)	0	2,646	0	0	0	0	2,646
San Jacinto Valley Crownscale Individuals (FT)	0	376	25,349	4,522	3,943	1,762	35,952
Thread-Leaved Brodiaea Individuals (FE)	0	0	32	0	0	0	32
Special-Status Plant Species							
Smooth Tarplant Individuals (CNPS 1B.1)	>3000	90	379	1,144	21	0	1,634
Davidson's Saltscale Individuals (CNPS 1B.2)	0	0	1,730	5	358	1	2,094
Little Mousetail Individuals (CNPS 3.1)	0	1,954	16,618	33,781	52	510	52,915
Vernal Barley Individuals (CNPS 3.2)	0	>500,000	>10,000	>10,000	>5,000	>400,000	>1,000,000
Paniculate tarplant Individuals (CNPS 4.2)	0	0	27	0	6	0	33
Surrounding Upland Habitats	Alkali Grassland / Annual Grassland / Ruderal /Disturbed	Alkali Grassland / Annual Grassland/ Riversidian Sage Scrub	Alkali Grassland / Alkali Playa Annual Grassland	Alkali Grassland / Alkali Playa /Annual Grassland	Alkali Grassland / Alkali Playa Annual Grassland	Alkali Grassland / Alkali Playa Annual Grassland	Alkali Grassland / Alkali Playa Annual Grassland
Note: Wetland impacts are based on the wetland area within the direct impact area of Build Alternative 1br, with the exception of vernal pools, for which the entire vernal pool area was included.							



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LEGEND

- | | |
|--|---|
| Project Impact Area | Hemet Channel |
| Utility Relocation Area | Riparian |
| Wetland Type | |
| Agricultural Seasonal Wetland | Salt Creek Channel |
| Constructed Pond | Seasonal Wetland |
| | Vernal Pool |

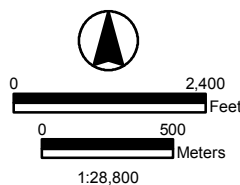
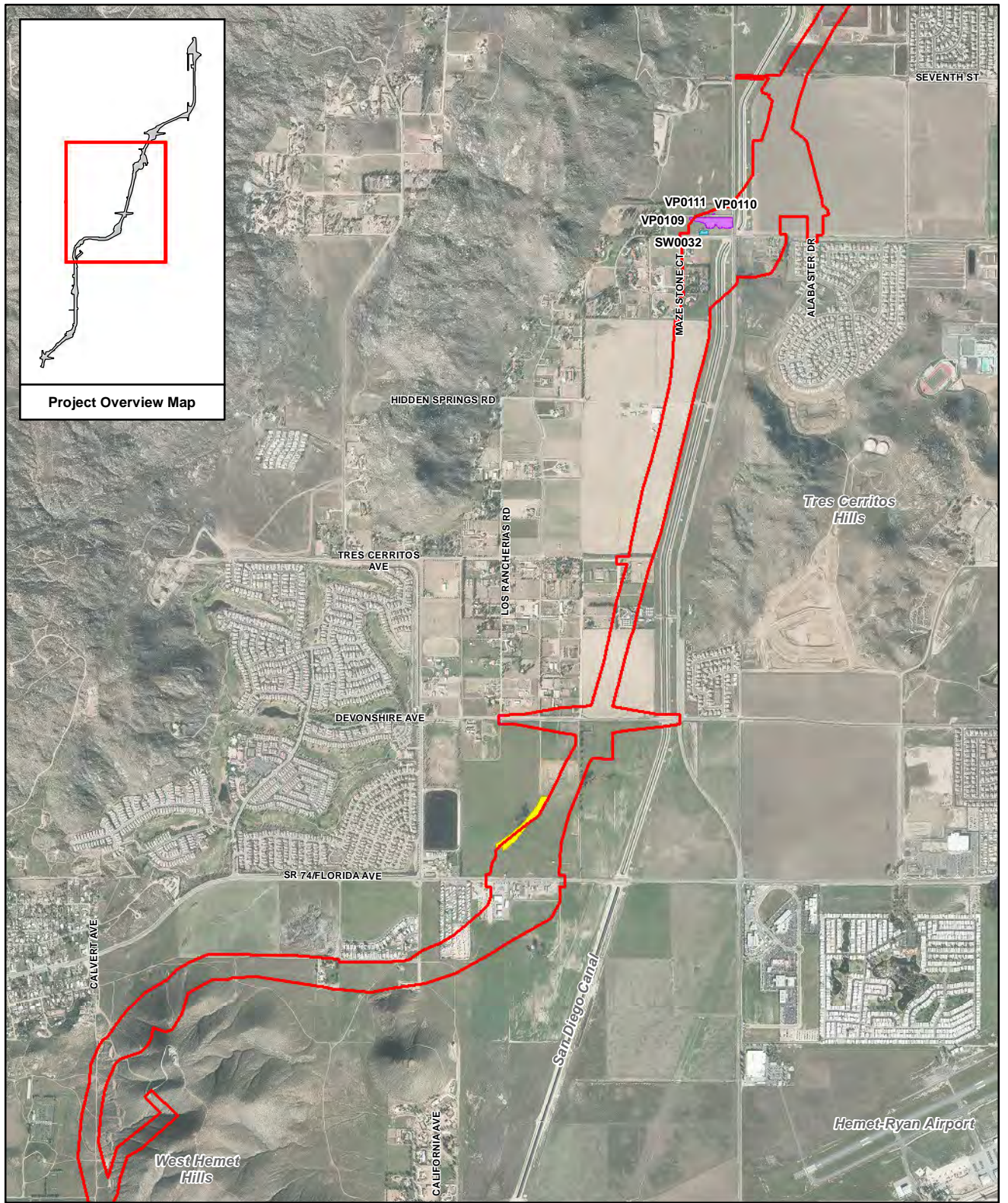


Figure 8.2-1a Wetlands Impacts by Alternative 1B with Refinements

Preferred Alternative/Preliminary
Identification of LEDPA
State Route 79 Realignment Project
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LEGEND

- | | |
|--|---|
| Project Impact Area | Hemet Channel |
| Utility Relocation Area | Riparian |
| Wetland Type | |
| Agricultural Seasonal Wetland | Seasonal Wetland |
| Constructed Pond | Vernal Pool |

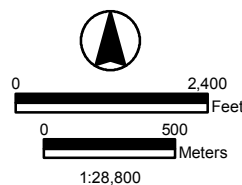
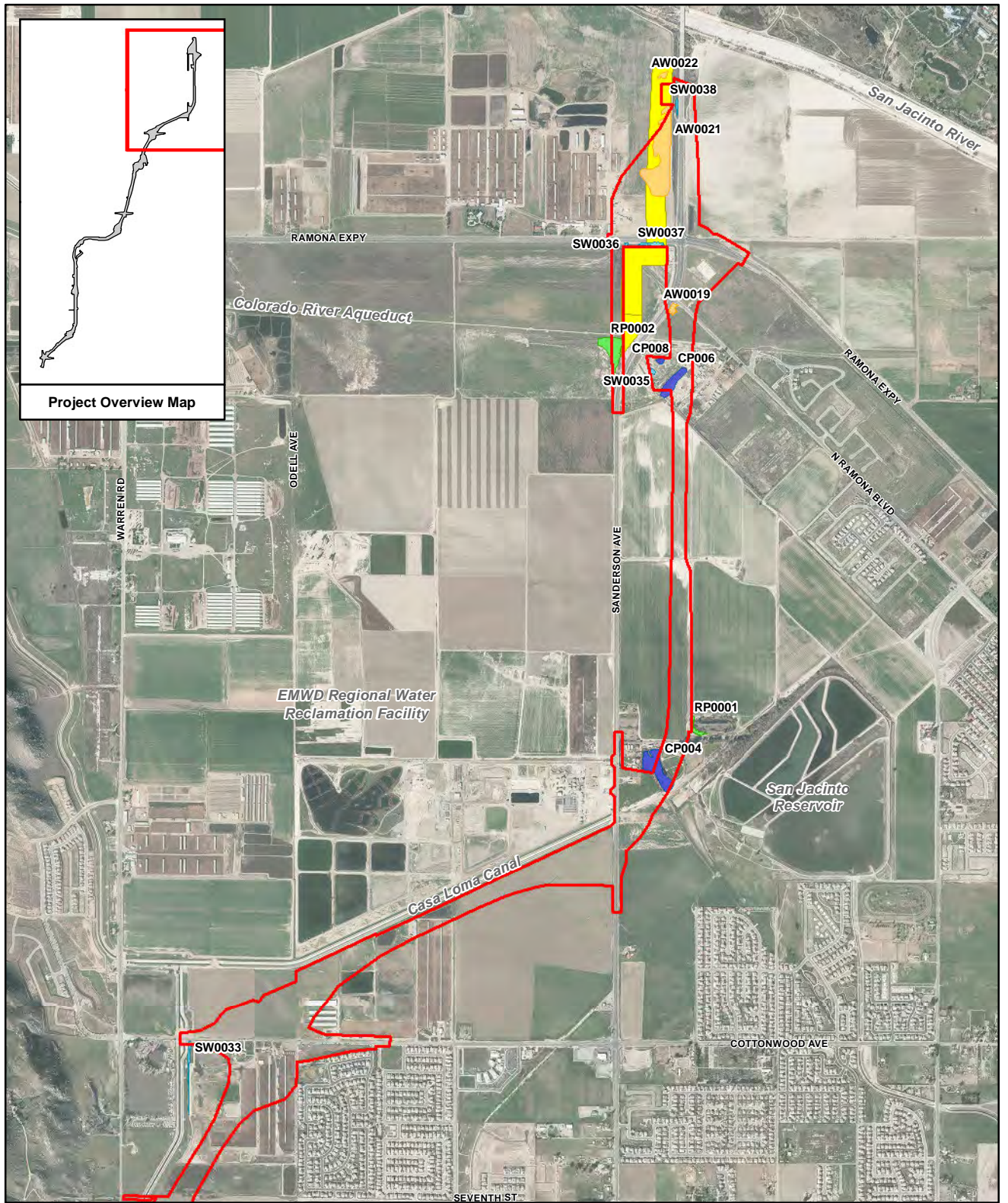


Figure 8.2-1b Wetlands Impacts by Alternative 1B with Refinements

Preferred Alternative/Preliminary
Identification of LEDPA
State Route 79 Realignment Project
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LEGEND

- | | |
|---|--|
| Project Impact Area | Hemet Channel |
| Utility Relocation Area | Riparian |
| Wetland Type | |
| Agricultural Seasonal Wetland | Salt Creek Channel |
| Constructed Pond | Seasonal Wetland |
| | Vernal Pool |

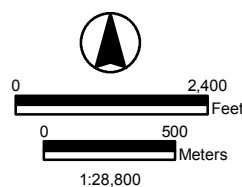


Figure 8.2-1c Wetlands Impacts by Alternative 1B with Refinements

Preferred Alternative/Preliminary
Identification of LEDPA
State Route 79 Realignment Project
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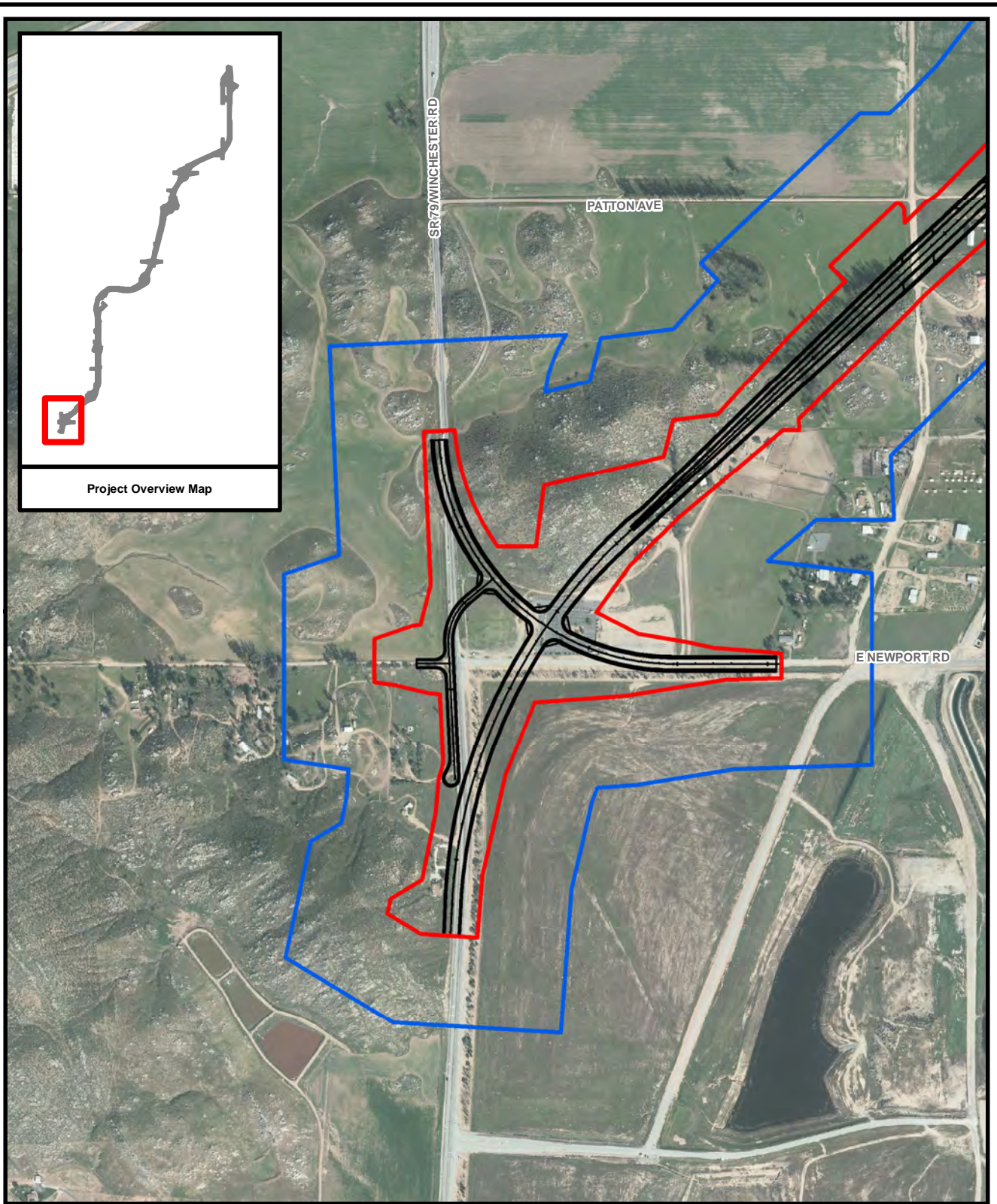
Appendix A NEPA/Clean Water Act Memorandum of Understanding

Full Appendix is available on the CD provided

Appendix B Project Alternative Studies

Full Appendix is available on the CD provided

Appendix C Alternative 1br Project Design Refinements

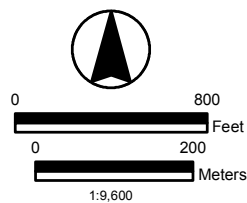


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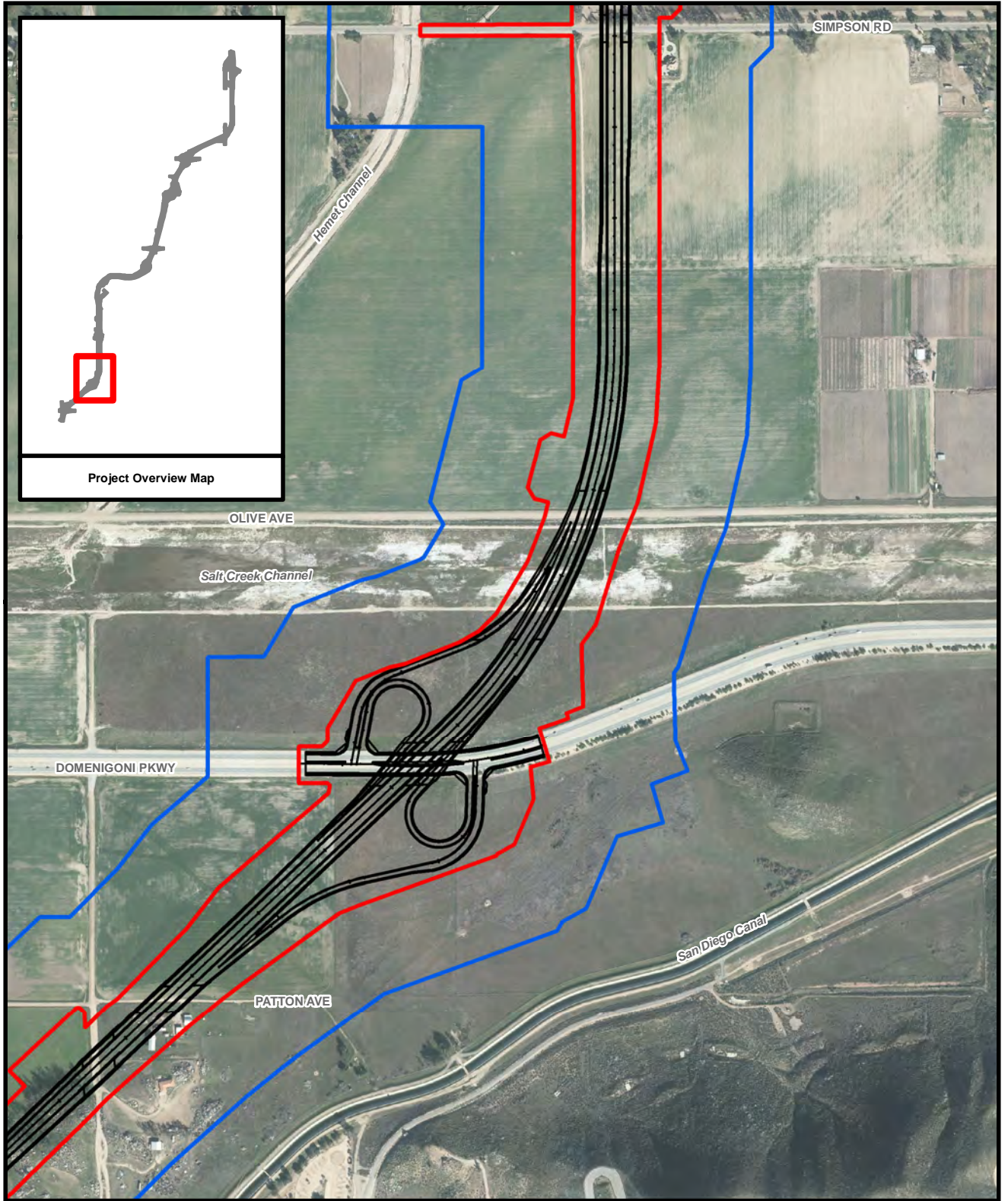
LEGEND

- Build Alternative 1B with Refinements
- Project Features (20-Year Design Horizon)
- Project Impact Area
- Project Study Area



Attachment C
Figure 1a
Newport Road
Build Alternative 1B
with Refinements
20-Year Design Horizon
 State Route 79 Realignment

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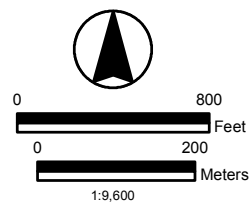


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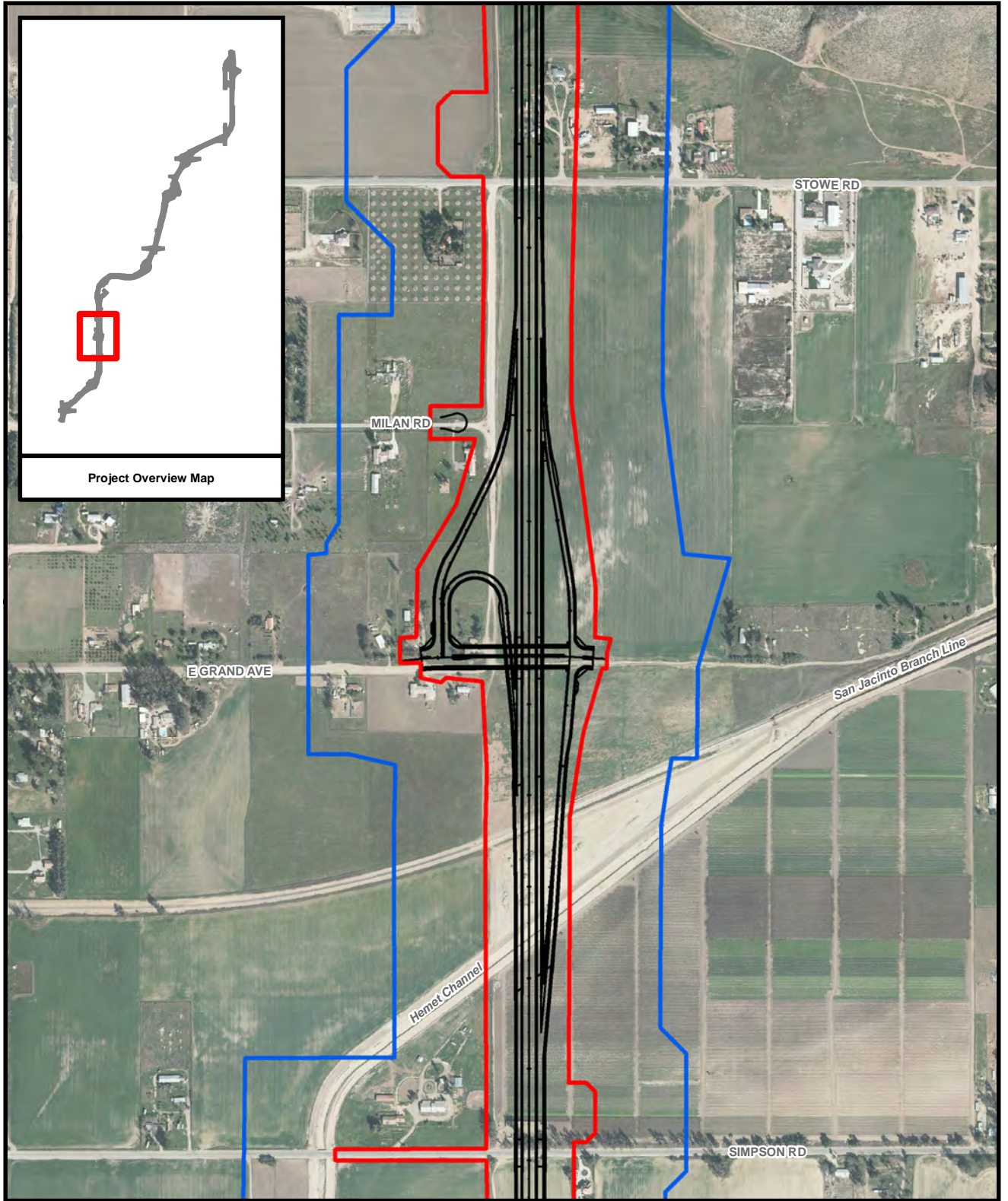
LEGEND

- Build Alternative 1B with Refinements
- Project Features (20-Year Design Horizon)
- Project Impact Area
- Project Study Area



Attachment C
Figure 1b
Domenigoni Pkwy
Build Alternative 1B
with Refinements
20-Year Design Horizon
 State Route 79 Realignment

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PUBLIC CIRCULATION

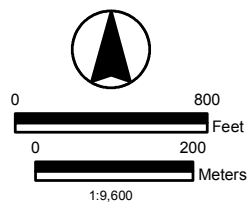


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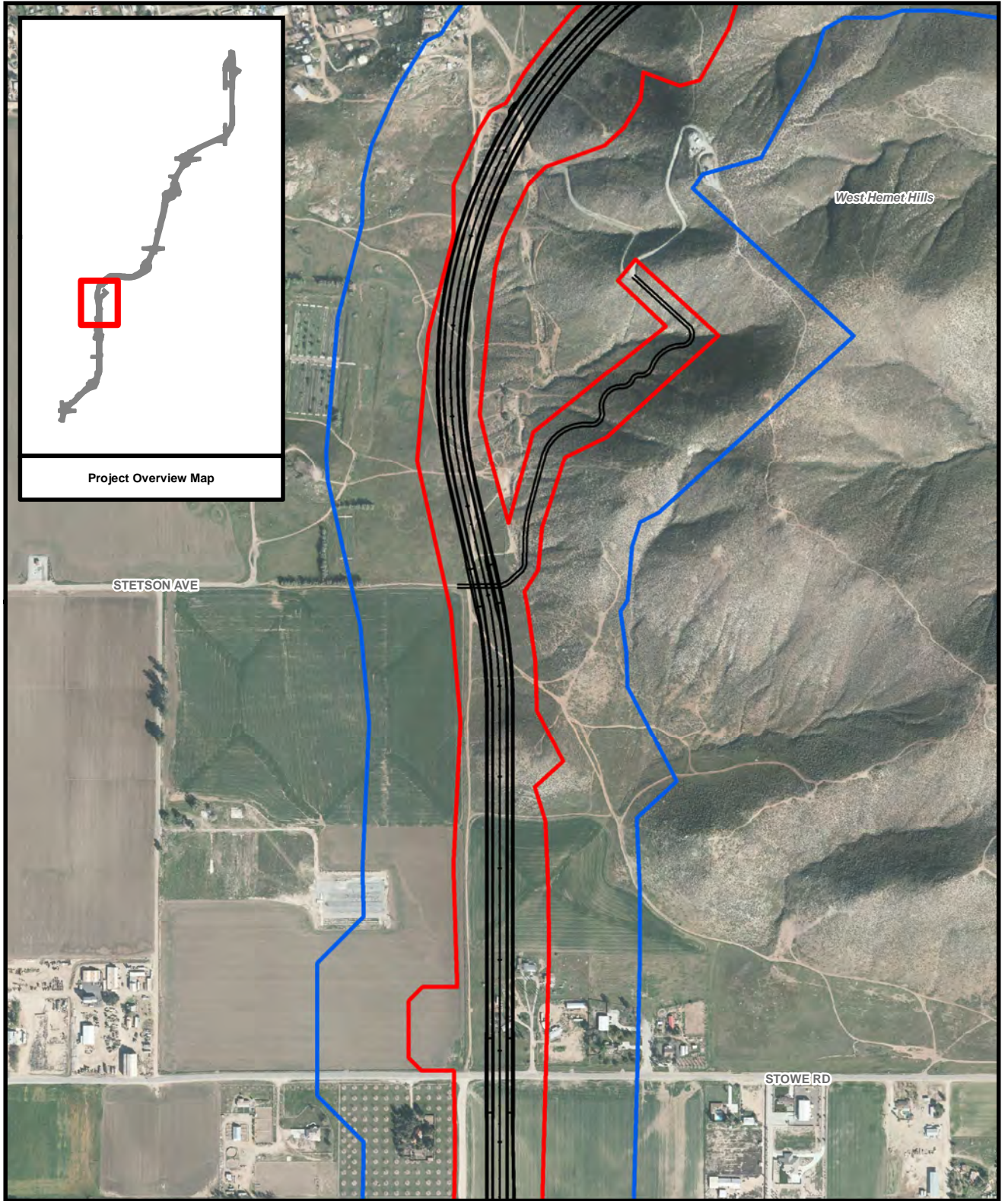
LEGEND

- Build Alternative 1B with Refinements
- Project Features (20-Year Design Horizon)
- Project Impact Area
- Project Study Area



Attachment C
Figure 1c
Grand Ave
Build Alternative 1B
with Refinements
20-Year Design Horizon
 State Route 79 Realignment

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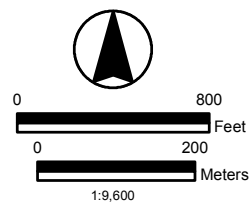


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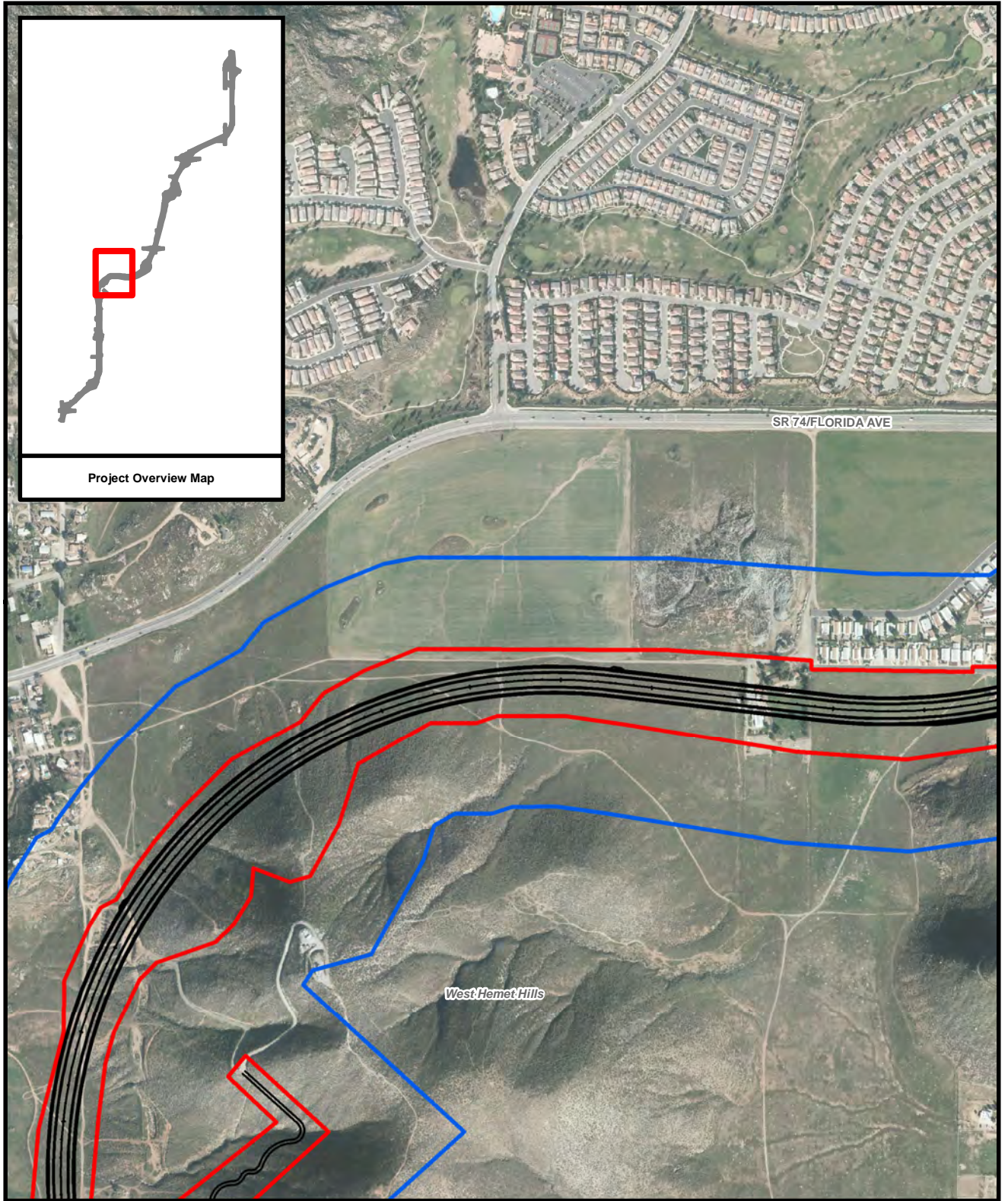
LEGEND

- Build Alternative 1B with Refinements
- Project Features (20-Year Design Horizon)
- Project Impact Area
- Project Study Area



Attachment C
Figure 1d
West Hemet Hills
Build Alternative 1B
with Refinements
20-Year Design Horizon
 State Route 79 Realignment

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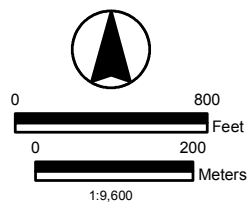


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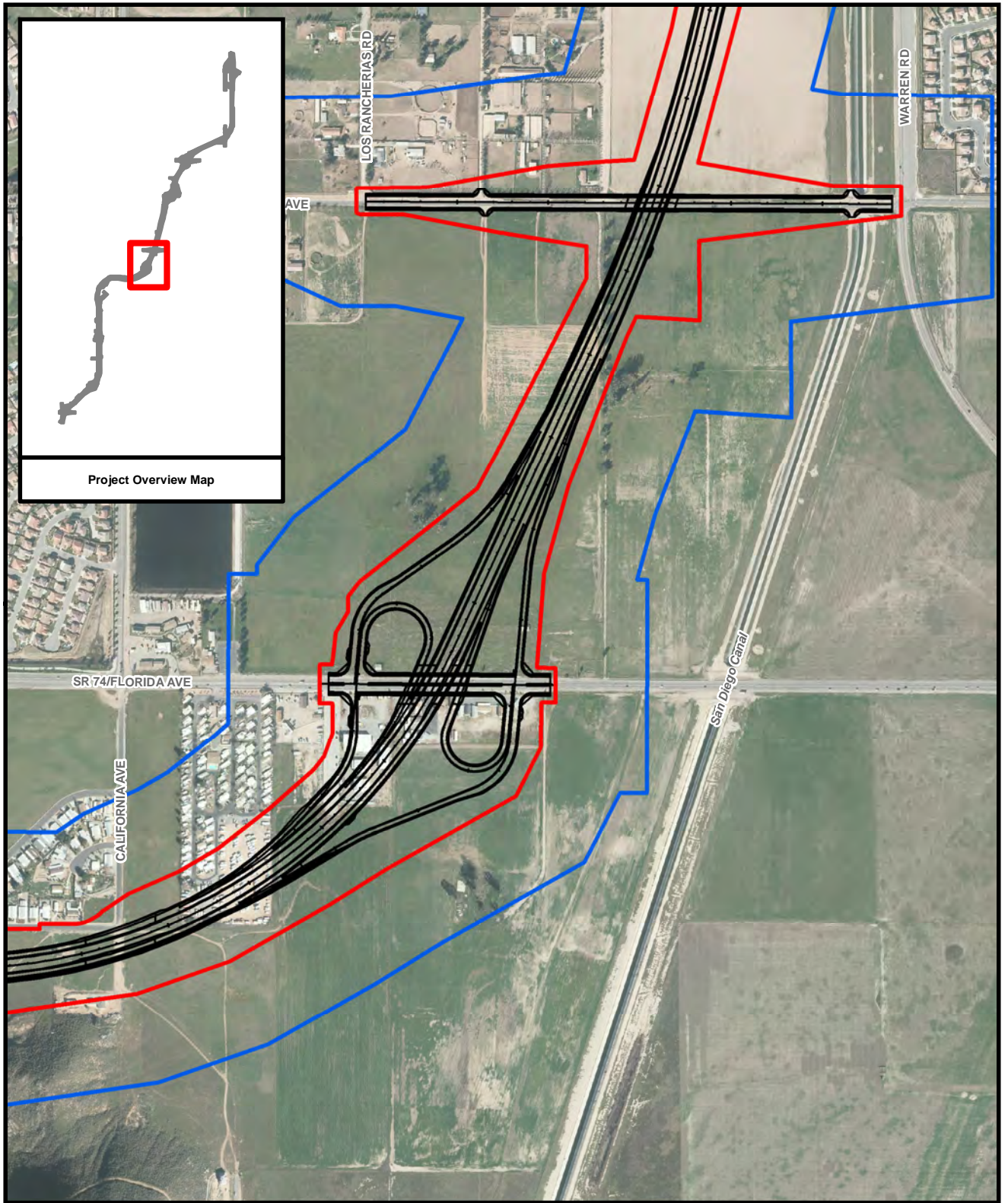
LEGEND

- Build Alternative 1B with Refinements
- Project Features (20-Year Design Horizon)
- Project Impact Area
- Project Study Area



Attachment C
Figure 1e
West Hemet Hills
Build Alternative 1B
with Refinements
20-Year Design Horizon
 State Route 79 Realignment

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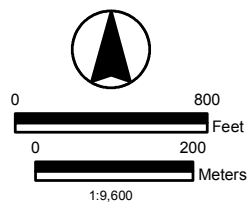


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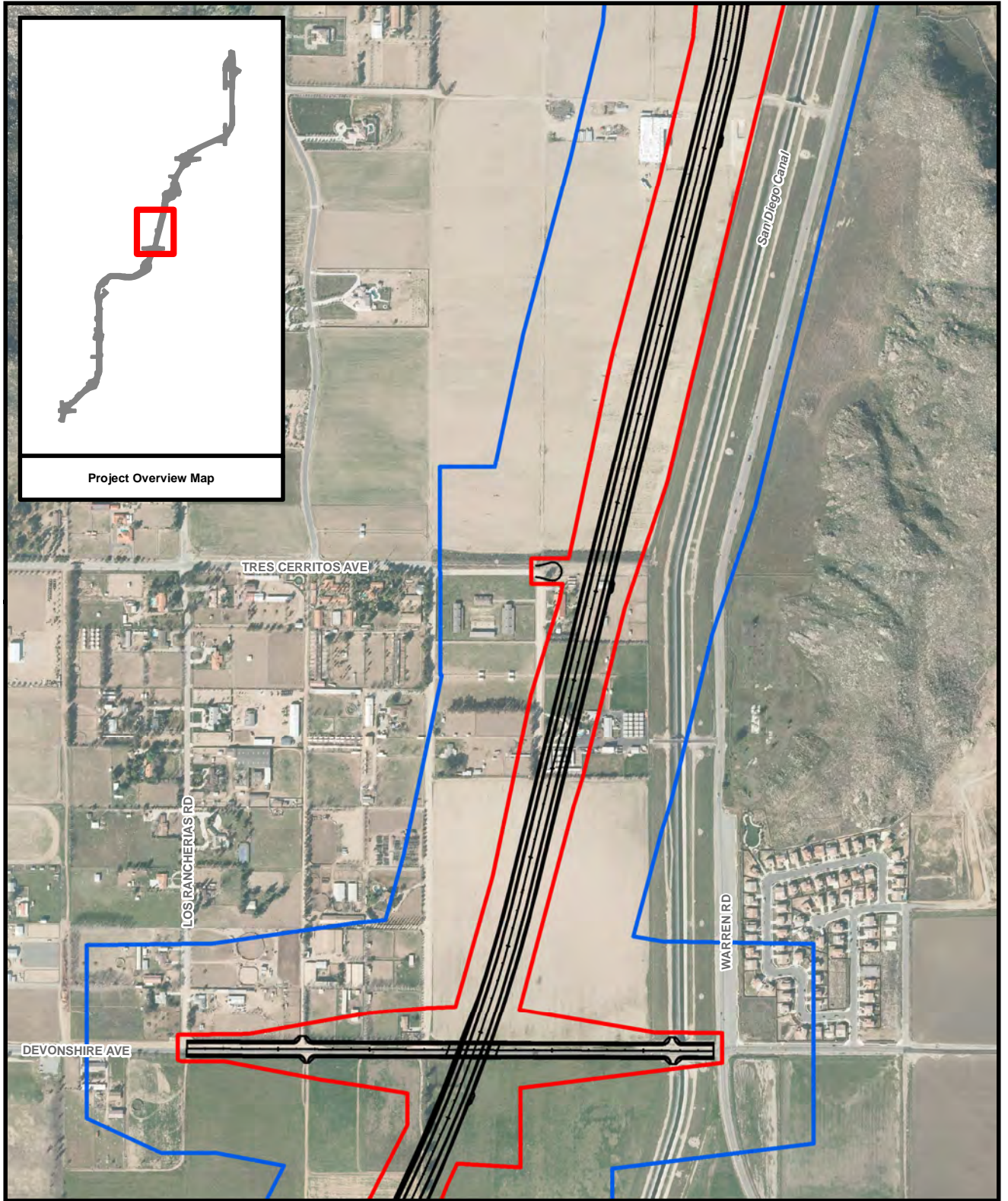
LEGEND

- Build Alternative 1B with Refinements
- Project Features (20-Year Design Horizon)
- Project Impact Area
- Project Study Area



Attachment C
Figure 1f
Florida Avenue
Build Alternative 1B
with Refinements
20-Year Design Horizon
 State Route 79 Realignment

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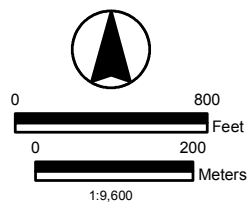


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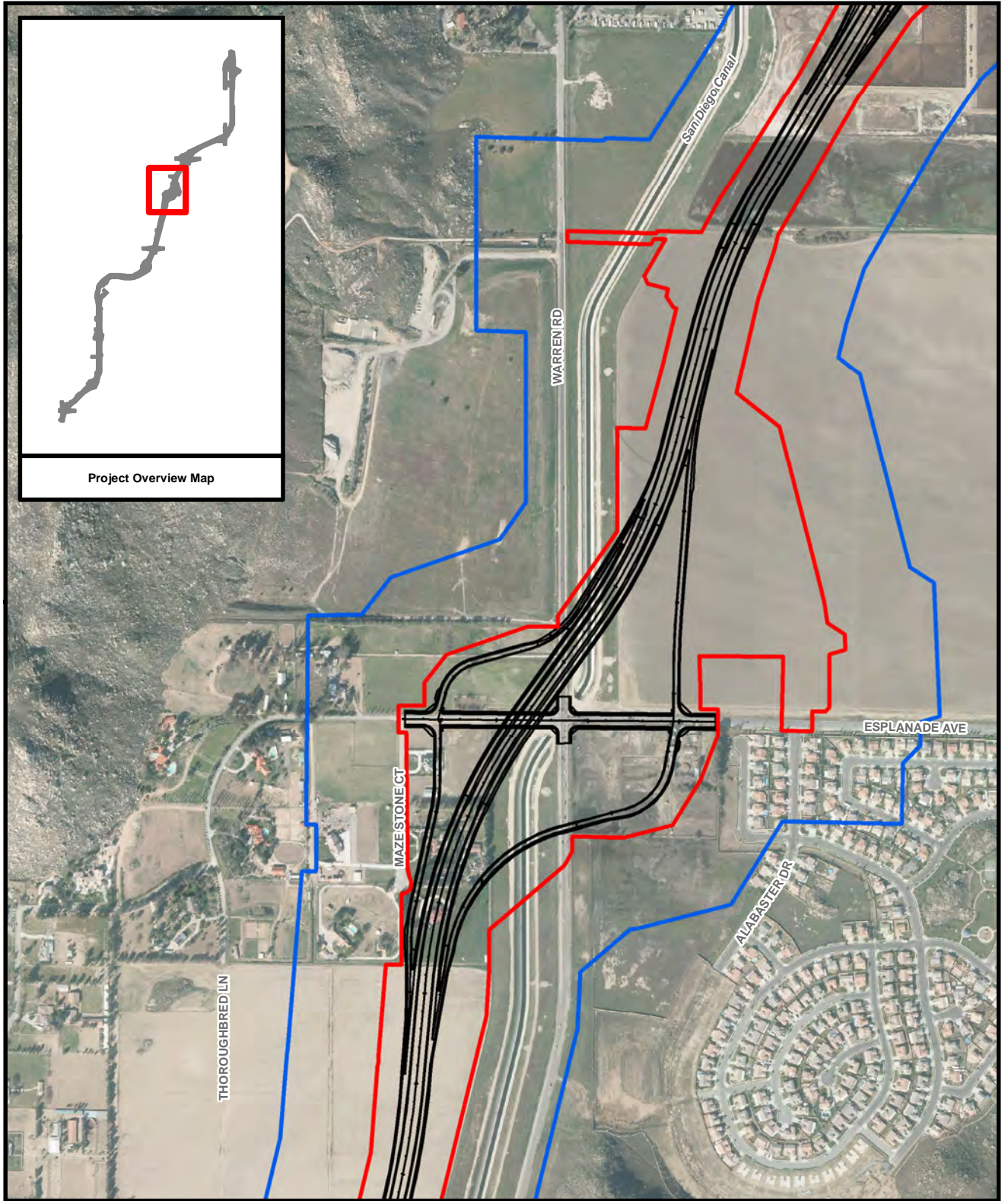
LEGEND

- Build Alternative 1B with Refinements
- Project Features (20-Year Design Horizon)
- Project Impact Area
- Project Study Area



Attachment C
Figure 1g
Tres Cerritos Avenue
Build Alternative 1B
with Refinements
20-Year Design Horizon
 State Route 79 Realignment

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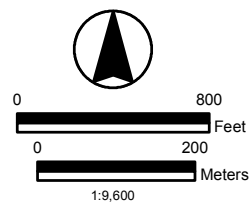


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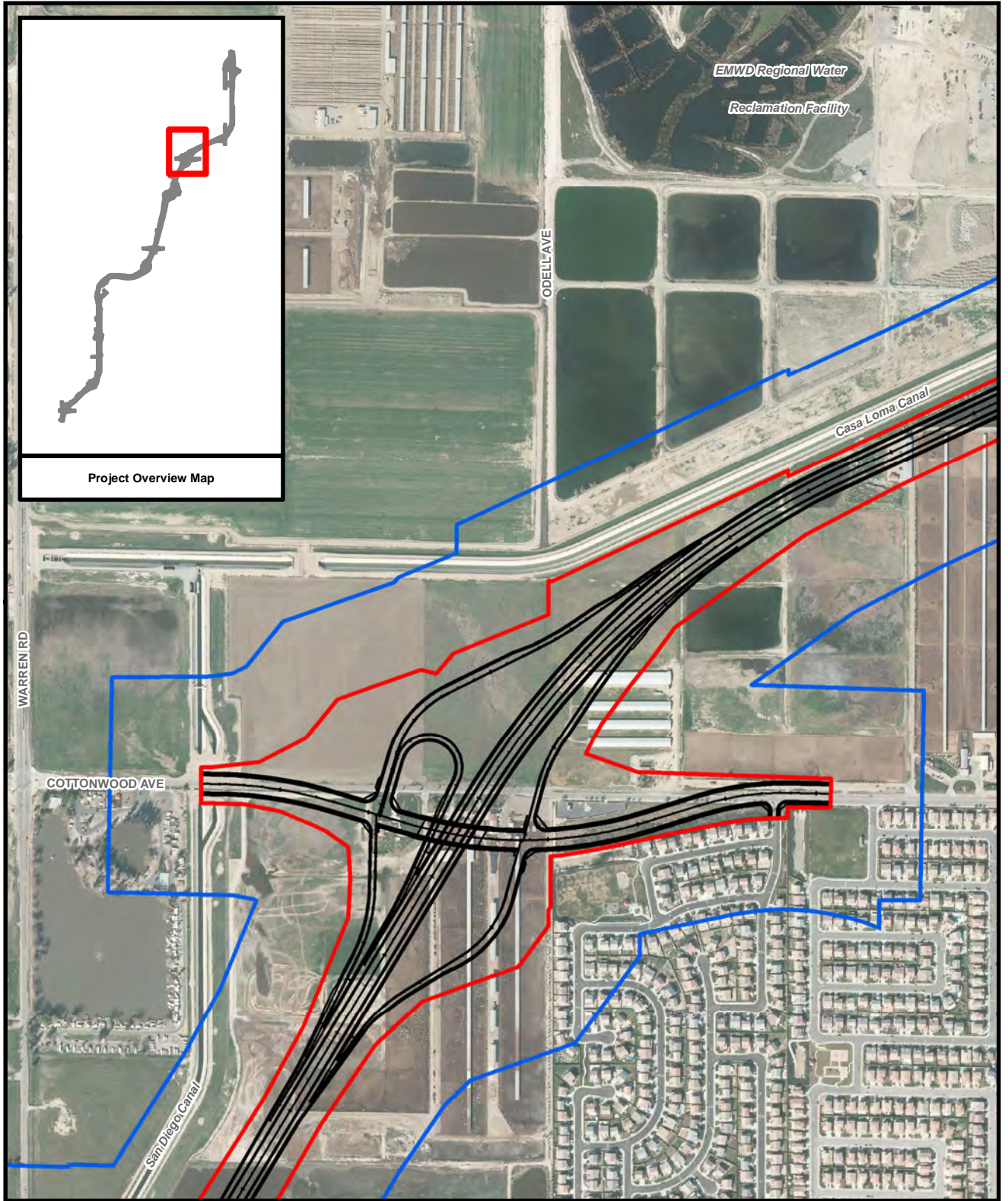
LEGEND

- Build Alternative 1B with Refinements
- Project Features (20-Year Design Horizon)
- Project Impact Area
- Project Study Area



Attachment C
Figure 1h
Esplanade Ave
Build Alternative 1B
with Refinements
20-Year Design Horizon
 State Route 79 Realignment

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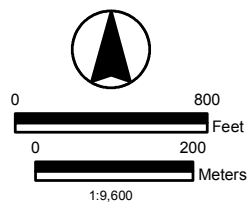


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- Build Alternative 1B with Refinements
- Project Features (20-Year Design Horizon)
- Project Impact Area
- Project Study Area



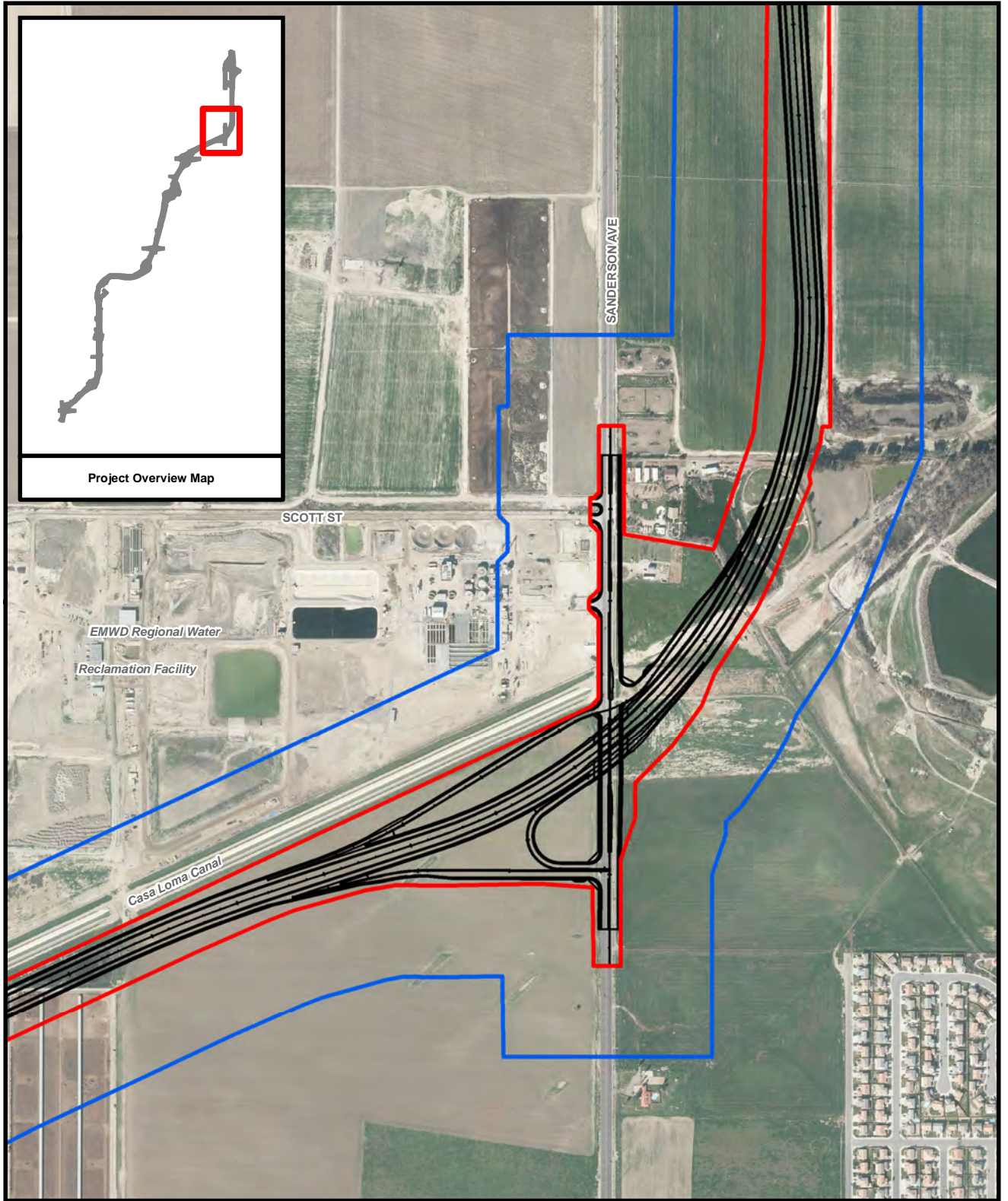
Attachment C

Figure 1i

Cottonwood Avenue Build Alternative 1B with Refinements

20-Year Design Horizon
State Route 79 Realignment

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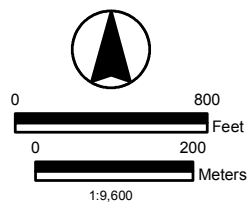


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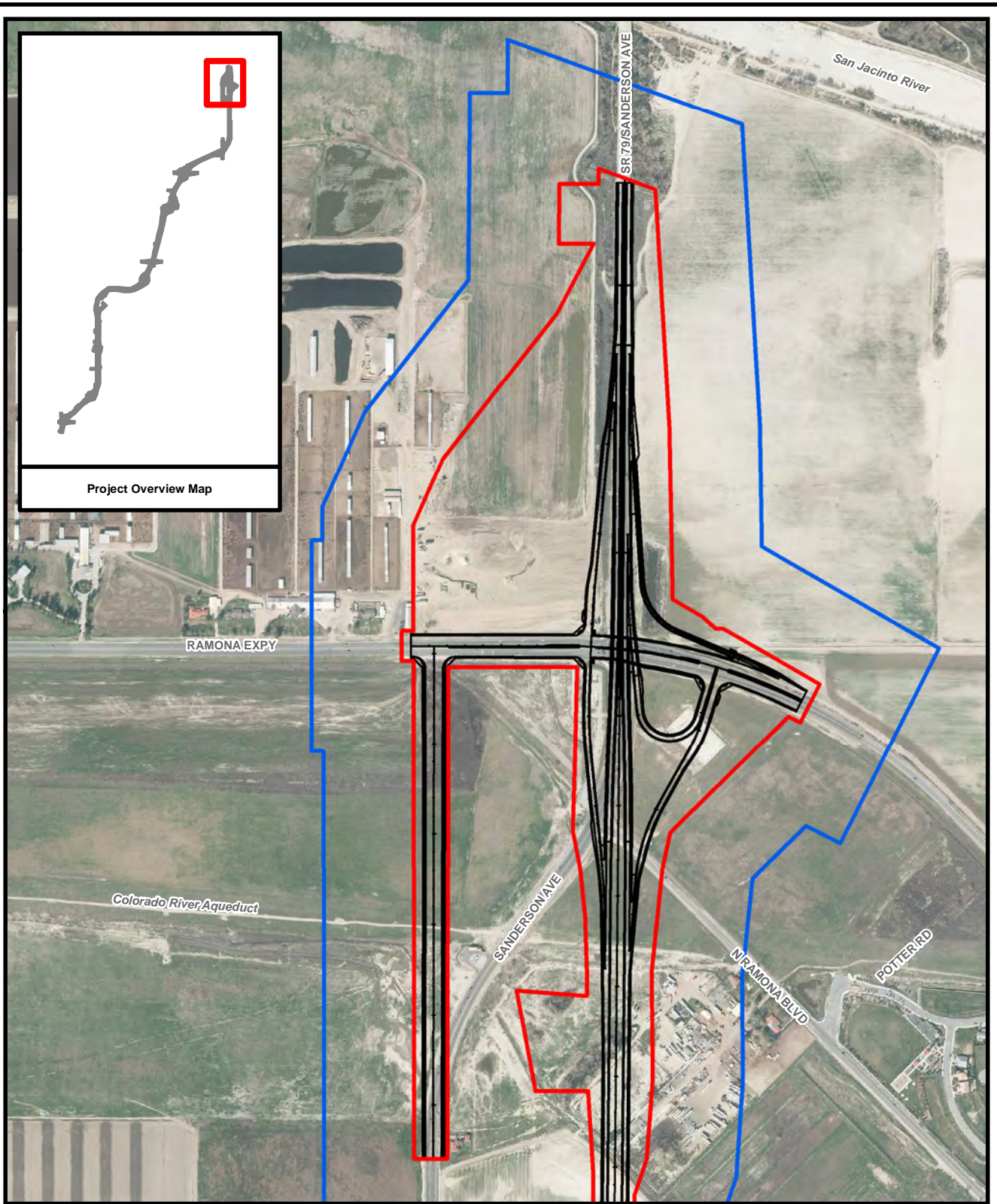
LEGEND

- Build Alternative 1B with Refinements
- Project Features (20-Year Design Horizon)
- Project Impact Area
- Project Study Area



Attachment C
Figure 1j
Sanderson Avenue
Build Alternative 1B
with Refinements
20-Year Design Horizon
 State Route 79 Realignment

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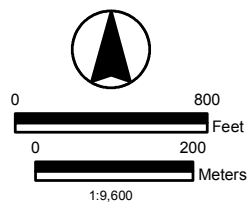


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LEGEND

- Build Alternative 1B with Refinements
- Project Features (20-Year Design Horizon)
- Project Impact Area
- Project Study Area



Attachment C
Figure 1k
Ramona Expressway
Build Alternative 1B
with Refinements
20-Year Design Horizon
 State Route 79 Realignment

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Appendix D Caltrans Title IV Policy Statement

DEPARTMENT OF TRANSPORTATION

OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-5266
FAX (916) 654-6608
TTY 711
www.dot.ca.gov



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Be energy efficient!*

March 2013

**NON-DISCRIMINATION
POLICY STATEMENT**

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, 1823 14th Street, MS-79, Sacramento, CA 95811. Telephone: (916) 324-0449, TTY: 711, or via Fax: (916) 324-1949.

A blue ink signature of Malcolm Dougherty, written in a cursive style.

MALCOLM DOUGHERTY
Director

**United States Environmental Protection Agency
Agreement on Preliminary Least Environmentally
Damaging Practicable Alternative (LEDPA) for the
State Route 79 Realignment Project**

May 14, 2015



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

**75 Hawthorne Street
San Francisco, CA 94105-3901**

May 14, 2015

Scott Quinnell
Senior Environmental Planner
Caltrans District 8
464 W. 4th Street, 6th Floor, MS 822
San Bernardino, CA 92401-1400

Subject: Agreement on Preliminary Least Environmentally Damaging Practicable Alternative (LEDPA) for the State Route 79 Realignment Project

Dear Mr. Quinnell:

The U.S. Environmental Protection Agency, Region 9 (EPA) has reviewed the April 29, 2015 letter requesting agreement on the preliminary least environmentally damaging practicable alternative (LEDPA) developed for the SR-79 Realignment Project in Riverside County, California. The EPA provides our early input for this transportation project pursuant to the National Environmental Policy Act/Clean Water Act Section 404 Integration Process Memorandum of Understanding (NEPA/404 MOU).

LEDPA Agreement

EPA provided comments on the draft preliminary LEDPA document on January 26, 2015 and we appreciate the additional information and clarifications which have been made to the document since that time. EPA agrees that Alternative 1br is the preliminary LEDPA based upon our review of information provided in the most recent submittal. Alternative 1br has the least amount of direct impacts on jurisdictional wetlands and other waters, as well as the fewest temporary impacts to the Salt Creek Channel. Additionally, with the design refinements incorporated to minimize impacts to the Hemet Hills, Alternative 1br will result in fewer impacts to threatened and endangered species habitat than any of the other Project alternatives.

Conceptual Mitigation Plan

An additional critical part of the NEPA/404 integration process is the completion of a conceptual mitigation plan to address unavoidable impacts to waters of the U.S. While the current submittal addresses many of the 12 fundamental components outlined in the 2008 Compensatory Mitigation Rule, additional coordination will be necessary before a conceptual mitigation plan can be agreed upon. We appreciate the attempt to mitigate for project impacts by preserving rare wetland resources which are threatened by suburban development, and we believe that the current proposed mitigation is of high value. However, given that no calculation of mitigation ratios has yet been completed using the USACE South Pacific Division Standard Operating Procedures for Determining Mitigation Ratios, and

that preservation is proposed as the primary source of mitigation (often requiring higher mitigation ratios), it is uncertain whether the mitigation proposed in the current submittal will contain adequate acreage to offset all project impacts to jurisdictional wetlands and waters of the U.S. Additionally, while preservation doesn't usually necessitate extensive long-term funding, there are often costs associated with trespass, illegal dumping, fence repair, and other unforeseen maintenance issues. It is unclear from the document who will be responsible for these costs.

Recommendations for the Conceptual Mitigation Plan:

- Coordinate with the EPA and U.S. Army Corps of Engineers to ensure that proposed mitigation will contain adequate acreage to compensate for project impacts.
- Provide clarification regarding responsible parties for long-term maintenance costs of proposed mitigation.

EPA is available to continue coordination under the NEPA/404 MOU and provide feedback on refinements to the conceptual mitigation plan, as well as any additional practicable impact avoidance measures the applicant may propose. EPA will also provide comments on the Supplemental Draft EIS and Final EIS when they are circulated for public review.

Thank you for requesting our agreement on the preliminary LEDPA. If you have any questions or comments, please contact Clifton Meek, the lead reviewer for this project, at 415-972-3370 or Meek.Clifton@epa.gov.

Sincerely,



Connell Dunning, Transportation Team Supervisor
Environmental Review Section

CC via email: John Chisholm, Caltrans
Brenda Powell-Jones, Caltrans
Gustavo Quintero, Riverside County Transportation Commission
Stephanie Hall, U.S. Army Corps of Engineers
Sally Brown, U.S. Fish and Wildlife Service
Heather Pert, California Department of Fish and Wildlife
Cindy Salazar, CH2M Hill

**United States Fish and Wildlife Service
Request for Concurrence on the Least Environmentally
Damaging Practicable Alternative and Mitigation Plan for
the SR-79 Realignment Project, Riverside County, California**



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Palm Springs Fish and Wildlife Office
777 East Tahquitz Canyon Way, Suite 208
Palm Springs, California 92262



In Reply Refer To:
FWS-WRIV-09B0190-15CPA0247

Mr. Scott Quinnell
Senior Environmental Planner
California Department of Transportation
464 4th Street, 6th floor, MS 822
San Bernardino, California 92401-1400

Subject: Request for Concurrence on the Least Environmentally Damaging Practicable Alternative and Mitigation Plan for the SR-79 Realignment Project, Riverside County, California

Dear Mr. Quinnell:

We have reviewed your request dated April 29, 2015, for our concurrence on the Preliminary Least Environmentally Damaging Practicable Alternative (LEDPA) and Mitigation Plan for the State Route 79 (SR-79) Realignment Project, pursuant to the National Environmental Policy Act/Clean Water Act Section 404 Integration Process for Federal Aid Surface Transportation Projects in California Memorandum of Understanding (NEPA/404 MOU). The California Department of Transportation (Caltrans) has assumed the Federal Highway Administration's responsibilities with regard to environmental review, consultation, and NEPA compliance for this project in accordance with Section 1313, Surface Transportation Project Delivery Program, of the Moving Ahead for Progress in the 21st Century Act (MAP-21) of 2012, as described in the National Environmental Policy Act (NEPA) assignment Memorandum of Understanding between FHWA and Caltrans (effective October 1, 2012) and codified in 23 U.S.C. 327.

We appreciate the coordination that has occurred on this project, specifically the avoidance and minimization of impacts to our trust resources and sensitive habitats at the Salt Creek Plain. As demonstrated in table 5.2-1 of *State Route 79 Realignment Project: Domenigoni Parkway to Gilman Springs Road Preferred Alternative/Preliminary Identification of LEDPA (NEPA 404/Checkpoint C)*, May 2015 (LEDPA document), Alternative 1br is the project alternative that demonstrates the greatest avoidance and minimization of impacts to Jurisdictional Wetlands and Waters of the U.S. Alternative 1br also demonstrates the greatest avoidance and minimization of impacts to our trust resources, as demonstrated in section 5.1.6 of the LEDPA document. By transmittal of this letter, we provide our agreement that Alternative 1br, as described in the LEDPA document dated May 2015, is the Preliminary LEDPA for the SR-79 Realignment Project.

During our conference call on May 20, 2015, the following points of clarification were made regarding the mitigation plan:

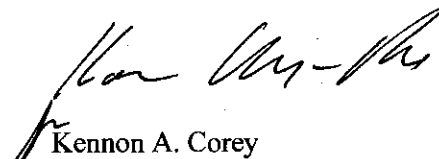
1. The mitigation plan proposes to conserve mitigation sites 1 through 5, including a total of 21.72 acres of wetlands, and the adjacent upland / watershed area, for a total of approximately 200 acres of conservation.

2. The mitigation plan proposes to conserve all five mitigation properties before project construction begins, providing advanced mitigation for project impacts.
3. The mitigation plan is conceptual as the project proponents have not entered into negotiations for purchase of the five properties and it is unknown whether property owners will be willing sellers; However, if the project proponents are unable to successfully purchase any of these properties, they agree to bring an alternative mitigation plan before the NEPA/404 MOU agency group for review and concurrence.

With incorporation of the above points of clarification, we agree that the May 2015 mitigation plan meets your compensatory mitigation obligation for impacts to wetlands. The mitigation plan focuses conservation within areas of high biological value in the Salt Creek Plain that support vernal pool habitat occupied by an abundance of rare and endemic species, including six federally listed species (table 8.2-1, LEDPA document). The mitigation plan proposes to conserve a large block of habitat within the criteria area of the western Riverside Multiple Species Conservation Plan in an area adjacent to existing conservation, which is consistent with regional planning efforts, and will limit fragmentation, making long-term habitat management easier.

We appreciate the project proponents' commitment to continue to work closely with the resource agencies on any revisions to the mitigation proposal. Thank you for the opportunity to participate in the transportation planning process; we look forward to our continued coordination in these matters. If you have any questions regarding this letter, please contact Sally Brown of the Carlsbad Fish and Wildlife office at 760- 431-9440, extension 278.

Sincerely,



Kennon A. Corey
Assistant Field Supervisor

cc:

Stephanie Hall, Corps of Engineers, Los Angeles, CA
Clifton Meek, Environmental Protection Agency, San Francisco, CA
Heather Pert, California Department of Fish and Wildlife, CA
Glenn Robertson, Regional Water Quality Control Board, CA
Gustavo Quintero, Riverside County Transportation Commission, Riverside, CA
Cindy Salazar, CH2MHill, Santa Ana, CA

**U.S. Army Corps of Engineers, Los Angeles District
State Route 79 Realignment Project, Domenigoni Parkway
to Gilman Springs Road, Riverside County, California,
Request for Corps Concurrence on the Preliminary Least
Environmentally Damaging Practicable Alternative and the
Conceptual Mitigation Plan
August 24, 2015**



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, LOS ANGELES DISTRICT
915 WILSHIRE BOULEVARD, SUITE 930
LOS ANGELES, CALIFORNIA 90017-3401

August 24, 2015

Mr. Scott Quinnell, Senior Environmental Planner
California Department of Transportation, District 8
464 4th Street, 6th Floor, MS-822
San Bernardino, California 92401

Subject: State Route 79 Realignment Project, Domenigoni Parkway to Gilman Springs Road,
Riverside County, California, Request for Corps Concurrence on the Preliminary Least
Environmentally Damaging Practicable Alternative and the Conceptual Mitigation Plan

Dear Mr. Quinnell:

This letter is in response to your request, dated April 29, 2015, for concurrence on the Preliminary Least Environmentally Damaging Practicable Alternative (LEDPA) and the Conceptual Mitigation Plan (Plan) for the State Route 79 (SR-79) Realignment Project, Domenigoni Parkway to Gilman Springs Road, in Riverside County, California. The Corps is providing concurrence on the Preliminary LEDPA pursuant to the 2006 *National Environmental Policy Act/Clean Water Act Section 404 Integration Process for Federal Aid Surface Transportation Projects in California Memorandum of Understanding* (NEPA/404 MOU). Also based on your invitation letter to the Corps, dated November 5, 2004, requesting we accept Cooperating Agency status, it is the Corps' understanding that the Federal Highway Administration, as the lead federal agency on this action, has delegated its responsibilities to the California Department of Transportation, with regard to environmental review, agency consultations (e.g., Endangered Species Act and National Historic Preservation Act), and NEPA compliance for this project in accordance with section 1313 of the Surface Transportation Project Delivery Program, of the Moving Ahead for Progress in the 21st Century Act (MAP-21) of 2012, as detailed in the NEPA assignment Memorandum of Understanding between the Federal Highway Administration (FHWA) and the California Department of Transportation (Caltrans), executed on October 1, 2012 and codified in 23 U.S.C. 327.

Preliminary LEDPA

The Corps has reviewed your request, along with supplemental information provided in prior meetings and included in the NEPA/404 Checkpoint C document, dated May 2015. We appreciate the opportunity to provide early coordination and input in accordance with the NEPA/404 MOU. Based on early coordination, which included additional design refinements to avoid and minimize impacts to waters of the United States, including vernal pool wetlands and other sensitive biological resources, the Corps concurs that the Caltrans-identified Preferred Alternative, "Alternative 1br" as described and evaluated in the *Preferred Alternative/Preliminary Identification of LEDPA (NEPA 404/Checkpoint C)* document), is the Preliminary LEDPA. It has

been demonstrated, through design refinements, that “Alternative 1br” has the fewest direct impacts to federal jurisdictional waters of the U.S., including wetlands. Alternative 1br also has the fewest temporary impacts to the Hemet Hills, an identified source of fill material proposed for discharge in waters of the U.S. Furthermore, Alternative 1br results in the least impacts to federally listed as threatened and endangered species suitable habitat and designated critical habitat compared to the other project alternatives.

Conceptual Mitigation Plan

Based on review of the “Conceptual Mitigation Plan” contained in the “Checkpoint C” document, the Corps concludes that the Plan, as currently offered, is not sufficient to provide concurrence. While the current Plan offers the preservation of wetland resources providing high functions and services, no calculations of mitigation ratios were included, in accordance with the USACE South Pacific Division’s Standard Operating Procedure for Determining Mitigation Ratios, to ensure adequate acreage, functions, and services are provided to offset project impacts to waters of the U.S. All the Corps Districts in South Pacific Division use this tool to assist us in determining appropriate and adequate compensatory mitigation for proposed unavoidable impacts to waters of the U.S. In addition, “preservation” is offered as the sole source of compensatory mitigation to offset proposed unavoidable impacts to waters of the U.S. Regarding the use of preservation, the 2008 Mitigation Rule (33 CFR section 332.3(h)(1)), lists five criteria that must be met for the use of preservation:

(i) The resources to be preserved provide important physical, chemical, or biological functions for the watershed; (ii) The resources to be preserved contribute significantly to the ecological sustainability of the watershed. In determining the contribution of those resources to the ecological sustainability of the watershed, the district engineer must use appropriate quantitative assessment tools where available; (iii) Preservation is determined by the district engineer to be appropriate and practicable; (iv) The resources are under threat of destruction or adverse modifications; and (v) The preservation site will be permanently protected through an appropriate real estate or other legal instrument. And as noted in 33 CFR section 332.3(h)(2), “Where preservation is used to provide compensatory mitigation, to the extent appropriate and practicable, the preservation shall be done in conjunction with aquatic resource restoration, establishment, and/or enhancement activities. This requirement may be waived by the district engineer where preservation has been identified as a high priority, using a watershed approach described in paragraph (c) of this section, but compensation ratios shall be higher.”

Additionally, your reference to “Site Protection Instruments” in section 8.1.3 of the Checkpoint C document, briefly states the proposed “direct purchase of lands or the establishment of conservation easements by RCTC. The purchased lands would become incorporated into the regional conservation areas in western Riverside County.” However, if establishment, restoration, and/or enhancement activities are included, in addition to preservation, associated information must be provided, including identified costs associated with these activities and the identification of responsible parties for the near-term and long-term mitigation, maintenance, monitoring, and management activities. Regardless of the

proposed direct purchase of lands proposed, a Conservation Easement (CE), Deed Restriction (DR), Restrictive Covenant (RC), Land Use Agreement, or other site protection instrument in a form approved by the Corps Regulatory Division, is required to be placed on purchased lands and/or preserved lands, obligating the project proponent, its successors and assigns to protect and maintain the mitigation area(s) as natural open space in perpetuity. The CE must include a 3rd party easement holder qualified to hold easements pursuant to California Civil Code section 815.3 and Government Code section 65965-65968. The project proponent must provide monies in the form of an endowment. The endowment amount should be determined by Property Analysis Record(s) or similar methodology for the purposes of fulfilling the 3rd party easement holder's responsibilities under the CE. Additional coordination will be required among Caltrans, the U.S. Environmental Protection Agency (EPA), and the Corps, to ensure adequate compensatory mitigation is provided and to identify long-term maintenance/management obligations, costs, and a responsible party to assume these obligations.

By transmittal of this letter, the Corps is providing our concurrence on the identified Alternative 1br, as the Preliminary LEDPA. However, the Corps cannot provide concurrence on the Conceptual Mitigation Plan at this time since the Plan, as submitted, does not contain sufficient information to demonstrate the adequacy of the proposed compensatory mitigation in offsetting the unavoidable impacts to approximately 19.304 acres of waters of the U.S., as discussed above.

The Corps appreciates Caltrans' continued commitment to work closely with regulatory and resource agencies to further refine the design of this project and to avoid and minimize impacts to the aquatic ecosystem to the maximum extent practicable. We look forward to continued coordination during the transportation planning process for this project. If you have any questions, please contact Stephanie Hall of my staff at (213) 452-3410 or via e-mail at Stephanie.J.Hall@usace.army.mil. Please refer to this letter and SPL-2009-00051-SJH in your reply.

Sincerely,

David J. Castanon
Chief, Regulatory Division

Cc:

Sally Brown, U.S. Fish & Wildlife Service-Carlsbad, CA
Clifton Meek, U.S. Environmental Protection Agency, Region IX, San Francisco, CA
Heather Pert, California Department of Fish & Wildlife, Inland Deserts Region (R6), CA
Glenn Robertson, Regional Water Quality Control Board-Santa Ana, CA
Gustavo Quintero, Riverside County Transportation Commission, Riverside, CA
Cindy Salazar, CH2MHILL, Santa Ana, CA

**SR 79 Realignment:
Qualitative Assessment of Proposed Mitigation Based
on the Criteria Established in the 2008 Mitigation Rule
January 26, 2016**

SR 79 Realignment: Qualitative Assessment of Proposed Mitigation Based on the Criteria Established in the 2008 Mitigation Rule

PREPARED FOR: Stephanie Hall, USACE
Clifton Meek, USEPA

COPY TO: Patti Castillo, RCTC
Gustavo Quintero, RCTC/Bechtel
Tom Ionta, CH2M
Carlos Montez, CH2M

PREPARED BY: Russ Huddleston, CH2M
Melissa Williams, CH2M

DATE: January 26, 2016

When evaluating potential mitigation options for unavoidable impacts to Waters of the United States from the State Route 79 Realignment Project (Project), a number of options were considered, including restoration and enhancement, in lieu fees, and preservation. An important consideration in this evaluation was how the mitigation proposal could provide the greatest benefit to the aquatic resources from a watershed and landscape context. While preservation is generally considered to be the least preferred method of mitigation, in certain circumstances, as stated in the 2008 mitigation rule, “wetland preservation is an important tool for maintaining wetland diversity in a watershed, and achieving the goals of the Clean Water Act in that watershed. Preservation is particularly valuable for protecting unique, rare, or difficult-to-replace aquatic resources”. Regarding the Project, an evaluation occurred as to whether a combination of restoration, enhancement, and in-lieu fees in some areas would be as valuable as the acquisition and protection of a much larger vernal pool landscape identified as a high conservation priority area. Since the proposed preservation area contains 234 acres of high value conservation land, including 17 acres of vernal pools and seasonal wetlands, preservation of this watershed will provide the greatest benefit to the aquatic resources from a watershed and landscape context.

The Project will impact approximately 15 acres low functioning wetlands; over half of which are comprised of flooded agricultural fields covered in manure at the time of the wetland delineation. The proposed mitigation will preserve 234 acres of high value vernal pool habitat from a watershed and landscape context. The resulting mitigation ratio is 16:1.

In lieu of the typical mitigation ratio checklist and analysis used for restoration or enhancement, the following sections describe in more detail the requirements outlined in Section 332.3 (h) of the 2008 Mitigation Rule for the use of preservation to provide compensatory mitigation, and is intended to provide justification for the use of preservation as the most valuable mitigation option in this particular case.

(i) The resources to be preserved provide important physical, chemical, or biological functions for the watershed;

Regulatory resource agencies and conservation biologists have stressed the importance of large scale regional planning for the maintenance of ecosystem processes, protection of important habitats such as vernal pools, and protection of threatened and endangered species (Leidy and White 1996; Goude 2007). In the Project area, the Western Riverside County Multi-Species Habitat Conservation Plan (MSHCP)

provides such a framework for large-scale regional planning. The MSHCP provides an important context for wetland mitigation because it was established by multiple federal, state, and local resource agencies, as well as public involvement, to devise a plan that would enhance, maintain and protect biological diversity and ecosystem processes in an area subject to rapid urban growth and development.

One of the primary objectives of the mitigation rule was to “maintain and improve the quantity and quality of wetlands and other aquatic resources in watersheds through strategic selection of compensatory mitigation sites” (40 CFR 230). In terms of identifying mitigation options, the MSHCP provides an important context because it was developed based on key principles of conservation biology including conservation of large habitat blocks, conservation of habitat diversity, and contiguous connected preserves. As part of the MSHCP planning process, areas of high conservation value that support unique and important habitat, as well as, threatened and endangered plants and animals, were identified for acquisition and preservation.

Important considerations identified in the MSHCP for these high priority conservation areas (criteria cells) include biological diversity, population abundance, irreplaceability, representativeness, number of threatened and endangered species, naturalness, and threats and management, among others. These factors were considered when identifying the potential mitigation sites. In particular, key factors used in the identification of the proposed mitigation sites included the following criteria:

- Lands identified as high priority MSHCP criteria cells and core linkage areas
- Sites that contain relatively intact vernal pools, alkali grasslands, and alkali playas
- Sites that are part of a larger, relatively intact vernal pool landscape including upland buffer and watershed areas
- Sites adjacent to existing preserved areas that would result in a large contiguous area of protected habitat and landscape
- Areas designated as critical habitat for threatened and endangered species such as spreading navarretia
- Sites that provide habitat for large populations of threatened and endangered species

(ii) The resources to be preserved contribute significantly to the ecological sustainability of the watershed. In determining the contribution of those resources to the ecological sustainability of the watershed, the district engineer must use appropriate quantitative assessment tools, where available;

As noted in the previous section, all of the proposed mitigation lands have been identified as high priority conservation areas by the MSHCP. Additionally, the proposed mitigation lands include what is likely the most intact and best remaining vernal pool habitat in the Hemet-San Jacinto area. The proposed mitigation will provide for conservation not only of the wetlands and threatened and endangered species, but also would protect a large, contiguous area of the surrounding uplands and watershed that are critical to support this vernal pool landscape.

A preliminary California Rapid Assessment Method (CRAM) was completed for the impacted wetland areas, as well as, the proposed mitigation sites (Attachment A – CRAM CD). The overall average CRAM score for the impacted sites was 46, as compared to an overall CRAM score of 70 for the proposed mitigation site wetlands. While CRAM is a useful tool, the score derived from the CRAM assessment fails to fully account for the ecological values of the proposed mitigation sites. For example, CRAM does not take into account the fact the following: 1) all of the mitigation lands have been identified as critical conservation areas based on large scale regional planning (MSHCP Criteria cells); 2) the proposed mitigation parcels are adjacent to existing preserved areas, resulting in conservation of a much larger vernal pool landscape area; 3) the proposed wetlands provide habitat for the only known occurrence of the federally listed vernal pool fairy shrimp, as well as, thousands of federally-listed rare plant species. Refer to Table 1 Mitigation Summary Table below.

Table 1. SR 79 Realignment Mitigation Summary Table

Section 404 Waters of the U.S. Resource	Build Alternative 1br Permanent Impacts (acres)	Mitigation Site 1 (60.03 ac*)	Mitigation Site 2 (95.26 ac*)	Mitigation Site 3 (31.89 ac*)	Mitigation Site 4 (13.63 ac*)	Mitigation Site 5 (33.52 ac*)	Mitigation Summary Total (234.33 ac*)	Mitigation Ratio
Vernal Pool	1.99	2.51	1.16	4.65	0.009	6.90	15.23	7.6:1
Seasonal Wetlands**	0.93	0.0	1.85	0.0	0.0	0.0	1.85	2:1
Riparian Wetlands	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Agricultural Wetlands	9.42	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Constructed Ponds	1.35	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	15.29	2.51	3.01	4.65	0.009	6.9	17.08	1.1:1
MSHCP Resource	Build Alternative 1br Permanent Impacts (acres)	Mitigation Site 1 (60.03 ac*)	Mitigation Site 2 (95.26 ac*)	Mitigation Site 3 (31.89 ac*)	Mitigation Site 4 (13.63 ac*)	Mitigation Site 5 (33.52 ac*)	Mitigation Summary Total (234.33 ac*)	Mitigation Ratio
Riverine (Salt Creek Channel) (acres)	0.004	0.0	0.0	0.0	0.0	0.0	0.0	0
Riparian Wetlands (acres)	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0
Constructed Ponds (acres)	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0
Vernal Pool Fairy Shrimp (FT)	No	Yes	No	No	No	No	N/A	N/A
Vernal Pools (acres)	1.99	2.51	1.16	4.65	0.009	6.90	15.23	7.6:1
Seasonal Wetlands** (acres)	0.45	0.0	1.85	0.0	0.0	0.0	1.85	4:1
Spreading Navarretia (FT) (individuals)	0	28,533	1,547	246	0	0	30,326	N/A
California Orcutt Grass (FE) (individuals)	0	4,266	0.0	0	0	0	4,266	N/A
San Jacinto Valley Crownscale (FT) (individuals)	0	410	24,477	3,850	1,129	1,657	31,523	N/A
Thread-Leaved Brodiaea (FE) (individuals)	0	0	231	0	0	0	231	N/A
Smooth Tarplant (CNPS 1B.1) (acres)****	0.15	<0.10	0.38	0.81	<0.10 18 individuals	0	1.2	8:1

Table 1. SR 79 Realignment Mitigation Summary Table

MSHCP Resource	Build Alternative 1br Permanent Impacts (acres)	Mitigation Site 1 (60.03 ac*)	Mitigation Site 2 (95.26 ac*)	Mitigation Site 3 (31.89 ac*)	Mitigation Site 4 (13.63 ac*)	Mitigation Site 5 (33.52 ac*)	Mitigation Summary Total (234.33 ac*)	Mitigation Ratio
Davidson's Saltscale (CNPS 1B.2) (individuals)	0	0	11,931	5	3,554	1	15,490	N/A
Little Mousetail (CNPS 3.1) (individuals)	0	2,799	17,178	35,780	233	3,790	59,780	N/A
Burrowing Owl (pairs and/or acres)	1 pair***	60.03	95.26	31.89	13.63	33.52	234.33	Not known since foraging habitat varies for the one pair impacted
Priority Conservation Criteria								
MSHCP Criteria Cell (acres)	62.49 (Cells 2364, 3291, 3584, 3683)	60.03 (Cell 3887)	95.26 (Cell 3891, 4007)	31.89 (Cell 3791)	13.63 (Cell 3684, 3792)	33.52 (Cell 3791, 3792)	234.33	N/A
MSHCP Core Linkage	No	Yes	Yes	Yes	Yes	Yes	Yes	N/A
Part of Larger Vernal Pool Landscape	No	Yes	Yes	Yes	Yes	Yes	Yes	N/A
Adjacent to Existing Preserve	No	No	No	Yes	Yes	Yes	Yes	N/A
Surrounding Upland Habitats								
	Alkali Grassland / Annual Grassland / Ruderal /Disturbed	Alkali Grassland / Annual Grassland/ Riversidian Sage Scrub	Alkali Grassland / Alkali Playa Annual Grassland	Alkali Grassland / Alkali Playa /Annual Grassland	Alkali Grassland / Alkali Playa Annual Grassland	Alkali Grassland / Alkali Playa Annual Grassland	Alkali Grassland / Alkali Playa Annual Grassland	N/A

*The total acreage includes associated watershed upland buffer areas

**Seasonal Wetlands definitions differ b/w the MSHCP and Section 404 Guidelines

***The amount of foraging habitat can vary; therefore, the impacts shown only include the amount of pairs and not acreage of habitat

****Smooth tarplant impacts are shown in acreage, rather than individuals, since mitigation was assessed based on acreage of habitat in the DBESP

In addition, comparison of the CRAM scores for the vernal pools in the Hemet-San Jacinto area with vernal pools on a statewide level fails to take into account the inherent natural differences in the landscape, soils and vegetation between northern claypan and hardpan vernal pools, and the more alkaline pools typical of the mitigation sites. For example, vernal pools in northern California typically occur on landscapes characterized by patterned ground with a more topographic complex and often contain high concentration of vernal pools and swales. Northern California vernal pools are also generally more floristically diverse and are often characterized by two or more distant plant associations. In contrast, the vernal pools in the Project area are found on relatively level landscapes with more subtle topographic relief, are often characterized by a smaller number of larger pools, and are associated with strongly alkaline soils that have less overall plant diversity and often lack the zonation typical of other vernal pools. These differences result in lower CRAM scores relative to other vernal pools that are more of an artifact of the attributes measured in the assessment. Looking only at the CRAM scores relative to vernal pools throughout the state undervalues the ecological and biological significance of the proposed mitigation sites.

Rather than basing the ecological significance of the proposed mitigation sites on the CRAM scores, the ecological assessment should be based on the ecological value of the sites relative to the watershed and landscape within which they occur. As shown on Table 1, the proposed mitigation lands have all been identified as high value conservation sites in the MSHCP, include critical habitat for federally listed species, contain the only known location of the federally listed vernal pool fairy shrimp in the vicinity of the Project area, and provide habitat for significantly large populations of listed rare plants.

(iii) Preservation is determined by the district engineer to be appropriate and practicable;

The proposed mitigation includes the purchase of 234 acres of high priority conservation lands that have been identified in the MSHCP. These areas contain 17 acres of wetland habitat, as well as, the surrounding buffer and watershed that supports these wetland areas. The mitigation rule allows for the use of preservation under certain conditions. It also allows for the District Engineer to include as part of compensatory mitigation, buffers essential to ensure the long-term viability of the aquatic resources and habitat or corridors crucial for the ecological functioning of the aquatic resources.

All of the proposed mitigation lands have been identified as core linkage areas in the MSHCP (see Table 1). Figure 1 also builds upon existing preserved areas resulting in the preservation of a relatively large area of protected vernal pool landscape.

As a result of the high conservation values of this landscape, the proposed mitigation plan has been endorsed by the United States Environmental Protection Agency, The United States Fish and Wildlife Service, the California Department of Fish and Wildlife, and the Western Riverside County Regional Conservation Authority.

(iv) The resources are under threat of destruction or adverse modifications;

The City of Hemet is one of the fastest growing cities in southern California. In 1990, the population was 36,094 and as of the 2010 census the population had more than doubled to over 78,053 (City of Hemet General Plan). This increased population growth resulted in increased development of housing units which doubled during the same period of time. The population continues to expand and is expected to reach over 100,000 in the foreseeable future (City of Hemet General Plan). While all of the proposed mitigation sites fall within MSHCP criteria cells (areas that have been identified as priority conservation areas), none of them have been designated as open space or conservation areas in the City of Hemet's General Plan. In contrast, all of the areas are currently designated for either residential or industrial development, despite their known high conservation value. Currently, one of the parcels, at the corner of California and Stowe Roads is for sale. Given the past population and projected population growth, and associated increased demand for housing, jobs, and services, these areas will likely be developed which would result in a loss or significant degradation of the wetland resources if not protected. Even in the event the aquatic resources themselves are not developed, development of the surrounding

landscape would result in further habitat fragmentation, and changes to the localized watershed upon which the ecological functioning of these wetlands depend.

(v) The preserved site will be permanently protected through an appropriate real estate or other legal instrument (e.g., easement, title transfer to state resource agency or land trust).

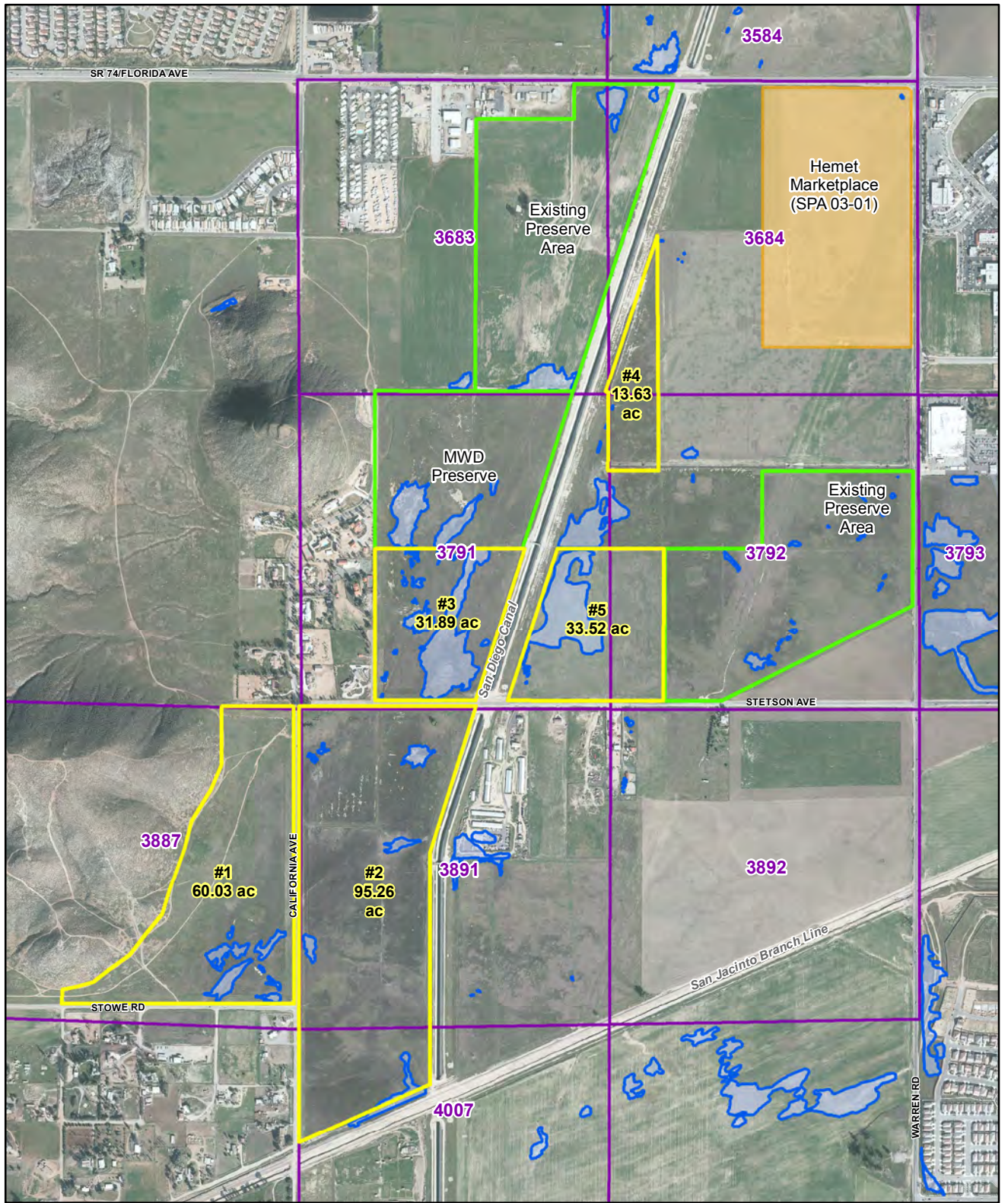
All lands will be transferred to the Western Riverside County Resource Conservation Authority and will be managed in perpetuity as part of the designated regional conservation areas in western Riverside County.

References:

Goude, C.C. 2007. Large Scale Conservation Planning and the Protection of Vernal Pools. Pages 121-123 in R.A. Schlising and D.G. Alexander (editors), Vernal Pool Landscapes. Studies from the Herbarium, Number 14. California State University, Chico.

Leidy, R.A. and E. G. White. 1996. Toward an Ecosystem Approach to Vernal Pool Compensation and Conservation. Pages 263-273 in C.W. Witham, E.T. Bauder, D. Belk, W.R. Ferren Jr. and R. Ornduff (Editors). Ecology, Conservation and Management of Vernal Pool Ecosystems – Proceedings from a 1996 Conference. California Native Plant Society, Sacramento California. 1998.

Figure

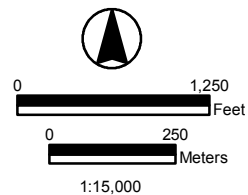


Aerial Date: February 2011, Aero-Graphics, Inc. \\GALT\PROJECTS\171146\2015\MAPFILES\MITIGATION\WETLAND_MITIGATION_WDR_V2_A.MXD WETLAND_MITIGATION_WDR_V2_A.PDF 10/05/2015

LEGEND

- Proposed Wetland Mitigation Area
- Preserve Area
- Proposed Development
- MSHCP Criteria Cell
- Wetland

**Confidential –
Not for Public Circulation**



Wetland Mitigation Sites and Wetlands

State Route 79 Realignment Project

Qualitative Assessment Spreadsheets

Attachment 12501.6 - SPD Mitigation Ratio Setting Checklist (See 12501-SPD for Revisions Sheet)

1	Date: Impact Site Name: Impact Cowardin or HGM type:	Corps File No.: ORM Resource Type: Impact area :	SPL-2013-NNN ORM Resource Type: Impact area :	Project Manager: acres Impact distance:	Hydrology: linear feet
	Column A Mitigation Site Name: Mitigation Type: ORM Resource Type: Cowardin/HGM type: Hydrology:	Column B Mitigation Site Name: Mitigation Type: ORM Resource Type: Cowardin/HGM type: Hydrology:	Column C Mitigation Site Name: Mitigation Type: ORM Resource Type: Cowardin/HGM type: Hydrology:		
2	Qualitative impact-mitigation comparison:	Starting ratio: 1.0 : 1.0 Ratio adjustment: Baseline ratio: 1.00 : 1.00 PM justification: see tab 2	Starting ratio: 1.0 : 1.0 Ratio adjustment: Baseline ratio: 1.00 : 1.00 PM justification: see tab 2	Starting ratio: 1.0 : 1.0 Ratio adjustment: Baseline ratio: 1.00 : 1.00 PM justification: see tab 2	
3	Quantitative impact-mitigation comparison:	Ratio adjustment from BAMI procedure (attached): #DIV/0! : #DIV/0!	Ratio adjustment from BAMI procedure (attached): #DIV/0! : #DIV/0!	Ratio adjustment from BAMI procedure (attached): #DIV/0! : #DIV/0!	
4	Mitigation site location:	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:	
5	Net loss of aquatic resource surface area:	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:	
6	Type conversion:	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:	
7	Risk and uncertainty:	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:	
8	Temporal loss:	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:	
9	Final mitigation ratio(s):	Baseline ratio from 2 or 3: #DIV/0! : #DIV/0! Total adjustments (4-8): 0 Final ratio: #DIV/0! : #DIV/0! Proposed impact (total): 0 acres 0 linear feet to Resource type: 0 Cowardin or HGM: 0 Hydrology: 0 Required Mitigation*: #DIV/0! acres #DIV/0! linear feet of Resource type: 0 Cowardin or HGM: 0 Hydrology: 0 Proposed Mitigation**: acres linear feet Impact Unmitigated: % acres Additional PM comments:	Baseline ratio from 2 or 3: #DIV/0! : #DIV/0! Total adjustments (4-8): 0 Final ratio: #DIV/0! : #DIV/0! Remaining impact: acres #VALUE! linear feet to Resource type: 0 Cowardin or HGM: 0 Hydrology: 0 Required Mitigation*: #DIV/0! acres #DIV/0! linear feet of Resource type: 0 Cowardin or HGM: 0 Hydrology: 0 Proposed Mitigation**: acres linear feet Impact Unmitigated: % acres Additional PM comments:	Baseline ratio from 2 or 3: #DIV/0! : #DIV/0! Total adjustments (4-8): 0 Final ratio: #DIV/0! : #DIV/0! Remaining impact (acres): acres Remaining impact (linear feet): #VALUE! linear feet to Resource type: 0 Cowardin or HGM: 0 Hydrology: 0 Required Mitigation: #DIV/0! acres #DIV/0! linear feet of Resource type: 0 Cowardin or HGM: 0 Hydrology: 0 Proposed Mitigation**: acres linear feet Impact Unmitigated: % acres Additional PM comments:	
10	requirements:	Final requirement is for			

*At PM's discretion, if applicant's proposed mitigation is less than checklist requirement and additional mitigation type(s) proposed, complete additional columns as needed.

**Only enter proposed mitigation into spreadsheet if accepting applicant's lower (than required ratio) proposal.

Step 2: Qualitative comparison of functions (functional loss vs. gain)

Functions (Column A)	Impact sites	Mitigation sites
MSHCP Criteria Cell (acres)	62.5	234
MSHCP Core Linkage	No	Yes
Part of Larger Vernal Pool Landscape	No	Yes
Adjacent to Existing Preserves / Protected Areas	No	Yes
Threatened and Endangered Species		
Spreading Navarretia (FT) - Designated Critical Habitat	No	Yes
Spreading Navarretia (FT) - Plants Observed	0	30,326
California Orcutt Grass (FE) - Plants Observed	0	4,266
San Jacinto Valley Crownscale (FT) - Plants Observed	0	31,523
Thread-Leaved Brodiaea (FE) - Plants Observed	0	231
Vernal Pool Fairy Shrimp (FE)	None	Present

Adjustment:	
PM Justification:	

Function (Column B)	Impact sites	Mitigation sites
	Low	High

Adjustment:	
PM Justification:	

Function (Column C)	Impact site	Mitigation site

Adjustment:	
PM Justification:	

Instructions:

1. Describe amount of functional loss (impact) and gain (mitigation) in each respective column. Gain and loss can be described in text
2. Note: alternate lists of functions may be used.
3. Note: a single adjustment should be used to account for all functions combined (see example 7 in attachment 12501.3)

**SR 79 Realignment PA/ED
Resource Agency Meeting Minutes
March 16, 2016**

SR 79 REALIGNMENT PA/ED

Resource Agency Meeting Minutes

ISSUE VERSION: ****FINAL****

DATE: **March 16, 2016**

TIME: **1:30 p.m.**

LOCATION: **Conference Call**

SUBJECT: **Resources Agency Meeting No. 50**

Prepared by: Melissa Williams/CH2M

Distribution via email only

Date Distributed as Draft: March 23, 2016

Date Distributed as Final: March 29, 2016

Attendee Names / Company

Heather Pert/CDFW
Glenn Robertson/RWQCB
Stephanie Hall/USACE
Sally Brown/USFWS
Clifton Meek/USEPA
Aaron Burton/Caltrans

Attendee Names / Company

Gustavo Quintero/RCTC-Bechtel
Carlos Montez/CH2M
Melissa Williams/CH2M
Sophie Chiang/CH2M
Ava Edens/CH2M
Cindy Salazar/CH2M
Alicia Cannon/CH2M

Copies To:

Project File
RA Members

Attachments:

None

1. Introductions

Carlos took attendance of all attendees. Carlos also stated this would be the last monthly RA meeting unless a significant issue arises, at which point a meeting will be held.

2. Administrative Final Draft EIR/EIS Update

The Admin Draft Document was reviewed by Caltrans and comments are being addressed. USFWS and USACE stated their agencies would not be able to comment within the timeframe given. USACE stated they could comment during the period of time that the Draft was up in Caltrans HQ. CH2M clarified that all federal waters overlap state waters; there are no instances where a separate state permit is needed.



The items presented summarize the substantive items discussed or issues resolved at the above meeting to the best of the writer's memory.

3. Section 7 Consultation

The BO was received on March 10th. Stephanie asked if the Corps was also included in the BO. Sally responded that she missed that request in the Section 7 initiation letter. Stephanie stated that the Corps is the lead agency and will need a BO from USFWS. She added that not having been included on the issued BO may hold up the Corp's ROD and delay permits. Sally explained that this could be resolved fairly easily if Stephanie would send an e-mail to Sally requesting to extend coverage of the existing BO to the Corps. Sally would then prepare a one page attachment to the existing BO that extends incidental take to the Corps. CH2M sent the original initiation letter to the Corps for reference.

Stephanie also inquired about SHPO consultation and whether or not the Corps was included. CH2M stated that the consultation letter was sent to the Corps back in October; however, the MOA has not been finalized yet.

4. Preliminary JD

Stephanie informed the team that a confirmation letter would still be prepared; however, due to other high priority projects, the letter most likely won't be completed until mid-April. Stephanie asked when the team anticipated submitting the 404 application. Gustavo replied that it is still 1-2 years out depending on funding. The 1600 permit application is on the same track as the other permits, and is still about 1-2 years out.

5. Preliminary USACE Mitigation Ratio Checklist/Qualitative Assessment

Stephanie and Clifton (EPA) were satisfied with the long term management plan (LTMP) outlined in Section 5.0 of the MSHCP for the preservation of the proposed mitigation lands.

6. Schedule

It was mentioned that the FED is due to Caltrans HQ on March 30th for review. CH2M should receive HQ comments on April 28th. Expected FED approval date is June 30, 2016.

7. New Action Items

- USFWS to send an updated BO to include the Corps

**United States Fish and Wildlife Service
Biological Opinion**



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008



In Reply Refer To:
FWS-WRIV-09B0190-16F0558

July 14, 2016
Sent by Email

Colonel Kirk Gibbs
District Engineer
U.S. Army Corps of Engineers, Los Angeles District
915 Wilshire Boulevard, Suite 930
Los Angeles, California 90017-3409

Attention: Ms. Stephanie Hall, Regulatory Division

Subject: Formal Section 7 Consultation for the SR-79 Realignment Project, Riverside County, California

Dear Colonel Gibbs:

In correspondence dated December 15, 2015, the California Department of Transportation (Caltrans) requested consultation under section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*), as a joint action undertaken by their agency and yours for the State Route (SR) 79 Realignment Project. The Project is receiving Federal funding through the Federal Highway Administration (FHWA) and from the Riverside County Transportation Commission (RCTC). Caltrans assumed FHWA's responsibilities under the Act for the consultation in accordance with 23 U.S.C. 327 and as described in the National Environmental Policy Act assignment Memorandum of Understanding between FHWA and Caltrans (effective October 1, 2012). Through a miscommunication we responded with a biological opinion (FWS-WRIV-09B0190-16F0335; enclosed) addressed only to Caltrans and not to your agency. This letter serves as the required consultation for your agency.

On June 22, 2004, the Service issued a section 10(a)(1)(B) permit for the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP). The MSHCP established a multiple species conservation program to minimize and mitigate habitat loss and the incidental take of covered species including the federally endangered least Bell's vireo (*Vireo bellii pusillus*; vireo), southwestern willow flycatcher (*Empidonax traillii extimus*; flycatcher), Quino checkerspot butterfly (*Euphydryas editha quino*; Quino) and Stephens' kangaroo rat (*Dipodomys stephensi*; SKR), and the federally threatened coastal California gnatcatcher (*Poliophtila californica californica*; gnatcatcher), spreading navarretia (*Navarretia fossalis*; navarretia) in association with activities covered under the permit. In addition, the effects of implementation of the MSHCP on designated critical habitat for navarretia were addressed in a reinitiation of our biological opinion dated September 22, 2011, in which we concluded that implementation of the MSHCP was not likely to result in the adverse modification of this critical habitat. The proposed Project is located within the MSHCP plan area boundary. The proposed Project is also located within the plan area boundary of the *Habitat Conservation Plan for the Stephens' Kangaroo Rat in Western Riverside County, California* (March 1996; SKR HCP).

Although the MSHCP covers SKR, within the SKR HCP plan area, take of SKR is addressed under the SKR HCP.

The Project will result in the realignment of a four lane highway along an 18-mile stretch in Riverside County, California. Currently, SR-79 shares an alignment with SR-74 for 7 miles along a circuitous route that travels through the downtown area of the City of Hemet. The current alignment does not support truck traffic, has inadequate capacity to accommodate both local and regional travel demand, and has resulted in higher than average fatality and injury accident rates. The Project as proposed will construct a new, divided, limited-access expressway with four travel lanes (two lanes in each direction), over a distance of 18 miles from post mile R15.78 just south of Domenigoni Parkway to post mile R33.80 at Gilman Springs Road, in Riverside County, California. This facility is identified within the *State Route 79 Realignment Project Domenigoni Parkway to Gilman Springs Road Draft Environmental Impact Report / Supplemental Environmental Impact Statement*, dated August 2015, as Build Alternative 1b with Refinements.

On March 10, 2016, we completed consultation on the subject project under section 7 of the Act with Caltrans and issued the 2016 streamlined biological opinion in which we determined that the proposed Project is consistent with relevant MSHCP policies and procedures. The status of the vireo, flycatcher, Quino, gnatcatcher, navarretia, and designated navarretia critical habitat, and the effects of implementing the MSHCP were previously addressed in our biological opinion dated June 22, 2004, and reinitiation dated September 22, 2011, in which we concluded that the level of anticipated take in the MSHCP Plan Area would not result in jeopardy to these species or adverse modification of designated critical habitat for navarretia.

We also determined that the proposed Project is consistent with the SKR HCP. The status of the SKR and the effects of implementing the SKR HCP were previously addressed in our biological opinion dated May 2, 1996. In the biological opinion for the SKR HCP, we concluded that the level of anticipated take in the SKR HCP plan area was not likely to result in jeopardy to the SKR. Given that the U.S. Army Corps of Engineers proposed action is encompassed by the greater action of Caltrans and does not cause any additional impacts to these species or designated critical habitat, we do not anticipate any adverse effects to these species or designated critical habitat that were not previously evaluated in the 2016 streamlined biological opinion for the SR-79 Realignment Project.

This concludes formal consultation regarding the SR-79 Realignment Project as outlined in materials submitted to us. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; and (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

Colonel Kirk Gibbs (FWS-WRIV-09B0190-16F0558)

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Thank you for your coordination on this project. If you have any questions regarding this letter, please contact Sally Brown of this office at 760-431-9440, extension 278.

Sincerely,

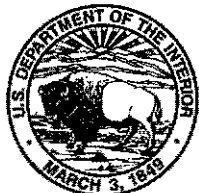
for Kennon A. Corey
Assistant Field Supervisor

Enclosure

cc:

Mr. Scott Quinnell, California Department of Transportation, San Bernardino, California

ENCLOSURE



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services

Palm Springs Fish and Wildlife Office
777 East Tahquitz Canyon Way, Suite 208
Palm Springs, California 92262



In Reply Refer To:
FWS-WRIV-09B0190-16F0335

MAR 10 2016

Mr. Scott Quinnell
Senior Environmental Planner
Department of Transportation, District 8
464 West Fourth Street, 6th Floor
San Bernardino, California 92401

Subject: Streamlined Formal Section 7 Consultation for the State Route 79 Realignment Project,
Riverside County, California

Dear Mr. Quinnell:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion on the proposed State Route 79 (SR-79) Realignment Project (Project) and its potential effects on the federally endangered least Bell's vireo (*Vireo bellii pusillus*, vireo), southwestern willow flycatcher (*Empidonax traillii extimus*, flycatcher), Quino checkerspot butterfly (*Euphydryas editha quino*, Quino) and Stephens' kangaroo rat (*Dipodomys stephensii*, SKR), and the federally threatened coastal California gnatcatcher (*Polioptila californica californica*, gnatcatcher), spreading navarretia (*Navarretia fossalis*, navarretia), and designated navarretia critical habitat, and in accordance with section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*). The Project is receiving Federal funding through the Federal Highway Administration (FHWA) and from the Riverside County Transportation Commission (RCTC). The California Department of Transportation (Caltrans) has assumed FHWA's responsibilities under the Act for this consultation in accordance with 23 U.S.C. 327 and as described in the National Environmental Policy Act assignment Memorandum of Understanding between FHWA and Caltrans (effective October 1, 2012).

On June 22, 2004, the Service issued a section 10(a)(1)(B) permit for the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP). The MSHCP established a multiple species conservation program to minimize and mitigate habitat loss and the incidental take of covered species including vireo, flycatcher, Quino, SKR, navarretia, and gnatcatcher in association with activities covered under the permit. The proposed Project is located within the MSHCP plan area boundary. Caltrans and RCTC are MSHCP permittees. In order for RCTC and Caltrans to receive incidental take authorization, the proposed action must be consistent with the MSHCP and its associated implementation agreement and permit. As MSHCP permittees, RCTC, the project applicants, received incidental take authorization for vireo, flycatcher, Quino, SKR, navarretia, and gnatcatcher for the proposed Project through their section 10(a)(1)(B) permit for that plan.

The proposed Project is also located within the plan area boundary of the *Habitat Conservation Plan for the Stephens' Kangaroo Rat in Western Riverside County, California* (March 1996) (SKR HCP). Although the MSHCP covers SKR, within the SKR HCP plan area, take of SKR is addressed under the SKR HCP. Neither Caltrans nor RCTC are permittees under the SKR HCP. In order to rely on the analysis of the incidental take coverage provided the SKR HCP, the proposed action must be consistent with the SKR HCP and its associated implementation agreement and permit.

This biological opinion is based on information provided in the following documents: (1) *Intra-Service Formal Section 7 Consultation/Conference for Issuance of Endangered Species Act Section 10(a)(1)(B) Permit TE-088609-0 for the Western Riverside County Multiple Species Habitat Conservation Plan*, dated June 22, 2004 (FWS-WRIV-870.19); (2) *Reinitiation of Consultation and Amendment to the Biological Opinion Regarding Issuance of an Endangered Species Act Section 10(a)(1)(B) Permit (TE088609-1) for the Western Riverside County Multiple Species Conservation Plan*, dated September 22, 2011 (FWS-WRIV- 11B0266-11F0413), (3) *State Route 79 Realignment Project Domenigoni Parkway to Gilman Springs Road Draft Environmental Impact Statement*, dated February 2013 (SR-79 DEIS) (4) *State Route 79 Realignment Project Domenigoni Parkway to Gilman Springs Road Draft Environmental Impact Report / Supplemental Environmental Impact Statement*, dated August 2015 (SR-79 RDEIR/SEIS); (5) *State Route 79 Realignment Project Western Riverside County Multiple Species Habitat Conservation Plan Consistency Determination Including Determination of Biologically Equivalent or Superior Preservation*, dated August 31, 2015 (SR-79 DBESP); (6) *Addendum to the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Consistency Determination and Determination of Biologically Equivalent or Superior Preservation (DBESP) Analysis for the State Route 79 Realignment Project, Riverside County, CA*, dated December 16, 2015; (7) two email messages dated November 23, 2015 and October 15, 2015, from the Service documenting the consistency of the proposed Project with the MSHCP (FWS-WRIV-16CPA0010); (8) *Intra-Service Section 7 Consultation on Fish and Wildlife Service Issuance of an Incidental Take Permit for the Long-term Stephens' kangaroo rat Habitat Conservation Plan* dated May 2, 1996 (1-6-96-FW-27); (9) a letter from your agency requesting initiation of formal section 7 consultation, received December 15, 2015; and (10) electronic and verbal communication with Caltrans and RCTC.

The Project will result in the realignment of a four lane highway along an 18-mile stretch in Riverside County, California. Currently, SR-79 shares an alignment with State Route 74 for 7 miles along a circuitous route that travels through the downtown area of the City of Hemet. The current alignment does not support truck traffic, has inadequate capacity to accommodate both local and regional travel demand, and has resulted in higher than average fatality and injury accident rates. The Project as proposed will construct a new, divided, limited-access expressway with four travel lanes (two lanes in each direction), over a distance of 18 miles from post mile R15.78 just south of Domenigoni Parkway to post mile R33.80 at Gilman Springs Road, in Riverside County, California. This facility is identified within the SR-79 RDEIR/SEIS as Build Alternative 1b with Refinements.

Impacts to Federally Listed Species

Project-related direct and indirect impacts to listed species and critical habitat are provided in Table 1.

Table 1. Direct and indirect impacts to habitat suitable for federally listed species and critical habitat (in acres)

	least Bell's vireo ¹	southwestern willow flycatcher ¹	Coastal California gnatcatcher ²	Quino checkerspot butterfly ³	Stephens' kangaroo rat ⁴	Spreading navarretia, designated critical habitat ⁵
SR-79 Build Alternative 1b with refinements	41.58	41.58	111.19	562.27	491.10	7.44

¹ Although 41.58 acres of suitable habitat was identified within direct and indirect impact areas, these species were not detected during protocol surveys and take is not expected.

² Includes annual grassland/Riversidean sage scrub and Riversidean sage scrub vegetation communities.

³ Includes alkali grassland, alkali playa, annual grassland, annual grassland/Riversidean sage scrub, Riversidean sage scrub, ruderal, ruderal alkali flats, and vernal pool vegetation communities.

⁴ Includes Riversidean sage scrub, coastal sage scrub, Riversidean alluvial fan sage scrub, desert scrub, chaparral, grassland, and/or playas supporting sandy or otherwise granular soils.

⁵ Unoccupied.

Although 41.58 acres of suitable habitat for the vireo and flycatcher were identified in the project direct and indirect impact areas, these species were not detected during protocol surveys and take is not expected. Focused surveys were not conducted for gnatcatcher, Quino, and SKR because they are covered species under the MSHCP and MSHCP implementation procedures do not require surveys. Impacts include, but are not limited to vegetation removal, soil disturbance, increased noise, light and dust, habitat fragmentation, and areas of cut and fill. Section 3.3.5 of the SR-79 DEIS details additional direct and indirect effects to federally listed species.

MSHCP Consistency

As an MSHCP Covered Activity (Sections 7.1 and 7.3.5 and Figure 7-1 of the MSHCP) the project needs to demonstrate compliance with Sections 6.1.2, 6.1.3, 6.1.4, 6.3.2, 7.5.1, 7.5.2 and 7.5.3 of the MSHCP.

Section 6.1.2 (Riparian/Riverine)

In accordance with the MSHCP Riparian/Riverine and Vernal Pools Policy, Section 6.1.2, a Determination of Biologically Equivalent or Superior Preservation (DBESP) was prepared to address the impacts to Riparian/Riverine and Vernal Pool habitats. Impacts to Riparian/Riverine and Vernal Pool resources, as defined in the MSHCP, include 5.27 acres of riparian habitat, 3.48 acres of riverine areas, and 1.99 acres of vernal pools (SR-79 DBESP).

To offset impacts to riparian/riverine and vernal pool habitats, RCTC will acquire five mitigation sites in the Salt Creek Plain totaling 234.33 acres and including 15.23 acres of vernal pool habitat and 219.1 acre of associated watershed and upland buffer areas (SR-79 DBESP Addendum). Once these lands are acquired, RCTC will transfer ownership to the Western Riverside Regional Conservation Authority (RCA) or other approved land management entity for long-term conservation, consistent with the requirements of the MSHCP. The land transfer will be reviewed and approved by all agencies participating in the National Environmental Policy Act and Clean Water Act Section 404

Integration Process for Federal Aid Surface Transportation Projects in California, Memorandum of Understanding, 2006 (NEPA/404 MOU), including the Service, before being accepted. RCTC will acquire the mitigation lands prior to the start of construction.

Section 6.1.3 (Narrow Endemic Plant Species Survey Areas)

This Project site is within MSHCP Narrow Endemic Plant Species Survey Area 3. Pursuant to the MSHCP, focused botanical surveys were conducted in 2005 and 2006 for the following species:

- California Orcutt Grass (*Orcuttia californica*);
- many-stemmed dudleya (*Dudleya multicaulis*);
- Munz's onion (*Allium munzii*);
- San Diego ambrosia (*Ambrosia pumila*);
- spreading navarretia (*Navarretia fossalis*); and
- Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*)

None of these narrow endemic species were observed within the footprint of Build Alternative 1b with Refinements.

Section 6.1.4 (Guidelines pertaining to Urban/Wildlands Interface)

Per MSHCP Section 6.1.4, with the presence of current and future conservation areas within or near the Project area, RCTC and Caltrans have incorporated avoidance and minimization measures to control adverse effects related to Project implementation. These measures include (1) controlling the quantity and quality of surface runoff from the facility, (2) incorporation of measures to preclude the discharge into the MSHCP conservation area of any chemicals potentially toxic to wildlife, habitat, or water sources, (3) lighting will be shielded and directed away from the MSHCP conservation area such that ambient lighting in the MSHCP Conservation Area is not increased, (4) invasive non-native plant species, as presented in Table 6-2 of the MSHCP, will not be utilized, (5) permanent fencing will be installed along the Right of Way to preclude public access to the MSHCP Conservation Area, and (6) manufactured slopes will not extend into any MSHCP Conservation Area (SR-79 DBESP).

Section 6.3.2 (Additional Survey Needs and Procedures)

Per MSHCP Section 6.3.2, the Project area overlaps with Criteria Area Species Survey Area 3, the Los Angeles Pocket Mouse and San Bernardino Kangaroo Rat Survey Areas, and the Burrowing Owl Survey Area.

Criteria Area Species Survey Area 3

Pursuant to the MSHCP, focused botanical surveys were conducted in 2005 and 2006 for the following species:

- Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*);
- Davidson's saltscale (*Atriplex serenana* var. *davidsonii*);

- little mouselike (*Myosurus minimus*);
- Parish's brittlescale (*Atriplex parishii*);
- prostrate navarretia (*Navarretia prostrata*);
- round-leaved filaree (*California macrophyllum* [*Erodium m.*]);
- San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*);
- smooth tarplant (*Centromadia pungens* ssp. *laevis* [*Hemizonia p.* ssp. *l.*]); and
- thread-leaved brodiaea (*Brodiaea filifolia*)

Smooth tarplant was observed within the Project footprint and little mouselike was observed within the Project's indirect impact area during the 2005 and 2006 surveys. Environmentally Sensitive Area fencing will be installed to protect little mouselike populations and no removal of little mouselike will occur.

In accordance with MSHCP Section 6.3.2, a DBESP was prepared to address effects to smooth tarplant in areas with long-term conservation value. To offset impacts to 0.15 acre of smooth tarplant, RCTC proposes to acquire and conserve lands containing 1.2 acres of occupied habitat. RCTC will acquire the mitigation lands prior to the start of construction (SR-79 DBESP). Once these lands are secured, RCTC will relinquish ownership to the RCA or other approved land management entity for long-term conservation, consistent with the requirements of the MSHCP. The land transfer will be reviewed and approved by all participating agencies before being accepted.

Small Mammal Survey Areas

The project area falls within MSHCP the Small Mammal Survey Areas for Los Angeles pocket mouse (*Perognathus longimembris brevinasus*, LAPM) and San Bernardino kangaroo rat (*Dipodomys merriami parvus*, SBKR).

LAPM

Presence/absence surveys conducted between July and August 2005 detected LAPM in the northern end of the project footprint; however, this area is outside of the MSHCP Mammal Survey Area, therefore no additional analysis is required for MSHCP implementation.

SBKR

Surveys were performed for the SBKR in marginally suitable habitat in the study area; however, no SBKR were observed and no impact to SBKR is anticipated.

Burrowing Owl Survey Area

The Project overlaps with the MSHCP burrowing owl (*Athene cunicularia hypugaea*) survey area. Survey efforts in 2005 and 2006 detected one burrowing owl pair within the project footprint and four burrowing owl pairs within the indirect impact area for the project. Given the length of time between survey efforts and project construction, RCTC will conduct preconstruction surveys at least 30 days prior to ground disturbing activities. All burrowing owls found in the project footprint will be actively relocated to translocation sites. Burrowing owls found 225 feet or less from the project

footprint will be considered for relocation based on adjacent construction activities in coordination with the Wildlife Agencies. For burrowing owls within 225 feet of the project footprint that are not relocated, minimization measures will be implemented such as buffers, visual screening, and marking off nests to avoid accidental disturbance. Indirect impacts to owls within the indirect impact area will be minimized through regular roadside maintenance to remove litter and weeds from the project right of way, and by use of shielded lighting.

Section 7.5.1 (Guidelines for the Siting and Design of Planned Roads Within the Criteria Area and Public/Quasi-Public Lands)

As designed, the Project demonstrates consistency with the biological goals and objectives set forth in Section 7.5.1 of the MSHCP (Table 4-11, SR-79 DBESP). The project has been designed to avoid Covered Species and wetlands to the greatest extent practicable. The project alignment was shifted to the west to avoid vernal pools and Covered Species. Wildlife movement considerations have been taken into account as detailed in section 4.5.2 of the DBESP. The project has avoided all impacts to narrow endemic plant species. To avoid impacts to nesting birds, the project will conduct clearing outside of the March 1 – June 30 bird breeding season (SR-79 DBESP).

Conclusion Based on Consistency with the MSHCP

Based on our review of the information provided to us, we have determined that the proposed Project is consistent with relevant MSHCP policies and procedures. The status of vireo, flycatcher, Quino, navarretia, and gnatcatcher and the effects of implementing the MSHCP were previously addressed in our biological opinion dated June 22, 2004, in which we concluded that the level of anticipated take in the MSHCP Plan Area would not result in jeopardy to these species. We do not anticipate any adverse effects to of vireo, flycatcher, Quino, navarretia, or gnatcatcher that were not previously evaluated in the biological opinion for the MSHCP. In addition, the effects of implementation of the MSHCP on designated critical habitat for navarretia were addressed in a reinitiation of our biological opinion dated September 22, 2011, in which we concluded that implementation of the MSHCP was not likely to result in the adverse modification of this critical habitat. Therefore, it is our conclusion that implementation of the proposed Project will not result in jeopardy to the vireo, flycatcher, Quino, gnatcatcher, or navarretia, and will not result in the adverse modification of designated critical habitat for navarretia.

SKR HCP Consistency

As indicated in Table 1, the project will directly and indirectly impact a total of 491.10 acres of suitable habitat for SKR. This estimate includes all potentially suitable habitat within the Project impact area regardless of the vegetation quality. No surveys were conducted and SKR were assumed to be present in the Project's impact area.


The SKR HCP is implemented by the Riverside County Habitat Conservation Agency (RCHCA) on behalf of the County of Riverside and eight member cities. To establish a regional mechanism to fund implementation of the SKR HCP, Riverside County Ordinance No. 663.10 was adopted, which requires the payment of a fee for projects that are inside the SKR HCP fee area but outside of the core reserve system. This funding has been used, in part, to establish and manage a core reserve

system designed to maintain the long-term survival of SKR in western Riverside County. The proposed project is within the SKR HCP fee area, but outside of the core reserves, and therefore would qualify to obtain take coverage through payment of fees. However, public works projects, such as roads, are exempt from fee payment. Therefore, we have determined that the proposed project is consistent with the SKR HCP and its associated implementing agreement and permit.

The status of the SKR and the effects of implementing the SKR HCP were previously addressed in our biological opinion dated May 2, 1996. In the biological opinion for the SKR HCP, we concluded that the level of anticipated take in the SKR HCP plan area was not likely to result in jeopardy to the SKR. Given that the proposed action is consistent with the SKR HCP, we do not anticipate any adverse effects to the SKR that were not previously evaluated in the biological opinion for the SKR HCP. No incidental take of SKR beyond that anticipated in the biological opinion for the SKR HCP will occur. Therefore, it is our conclusion that implementation of the proposed Project will not result in jeopardy to the SKR.

This concludes formal consultation on the proposed action. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the proposed action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat is designated that may be affected by the proposed action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation. Should you have any questions regarding the species listed or your responsibilities under the Act, please contact Sally Brown of the Carlsbad Fish and Wildlife office at 760-431-9440, extension 278.

Sincerely,


Kennon A. Corey
Assistant Field Supervisor